An Address
ON
TROPICAL MEDICINE.

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IN the third century before the Christian era the great Buddhist king Piyadassi Raja, in one of his edicts, which can still be read on the Lats in India, standing there as a testimony to his enlightened spirit and benevolence, commands that the health of the subjects of his vast dominions should be duly cared for. This, as far as is known, is the most ancient record engraved on pillars of stone in which we find public health regarded as a matter of State concern. In our day hygiene is no longer the exclusive affair of one country. It includes in its international development the vast dominions of ancient monarchies of the East as members of a large agglomerate, composed of all sorts and conditions of men, of different nationalities, Governments, and creeds. The resolution of the last Congress of Hygiene and Demography concerning this Section may be regarded as bridging over an interval of twenty-two centuries. The London Congress declares that, "looking to the interest shown by India, the meeting recommends that in future hygienic and demographic congresses a Tropical Section be formed with the view to a full discussion of questions affecting sanitation and the origin of disease in tropical climates." The present Congress is, therefore, the first that has had the duty imposed upon it of organising a special Tropical Section. The executive committee, in their kind and generous partiality towards myself, but contrary to my desire and advice, have done me the honour of entrusting the presidency of this Section to my care and charge. I must, therefore, beg your indulgence if you find the duty has been committed to feeble hands; but I know that I can rely on the kind coöperation of all the members of the Section, and particularly on that of my colleagues. First and foremost, then, I beg to bid you all a respectful welcome. The tropical zone, speaking geographically, and including the vast portions of our earth under its immediate influence, comprises more than one-third of the surface of the globe, with a relatively larger population than the temperate or polar zones. We may take it for granted, I think, that the large number of scientific men who have already done so much in the field of hygiene and demography generally will continue their work on the problems which still require further elucidation in tropical regions. In a necessarily short address like this it is not possible to review the results of labours of the distinguished men who have been working in the tropical field. The few remarks I desire to make must consequently be restricted to subjects immediately connected with East India, where I lived and spent some of the best years of my life in the service of its Government. When I first landed in Calcutta more than forty years ago hygiene, as it is understood at the present day, had not been thought of; no railways were then open in Bengal, and none of the means that now exist were available for grappling with the well-known scourges of the East—namely, the periodic visitations of famines and epidemic diseases. When we compare the condition of things of half a century ago with the present time the progress that has been made seems little short of marvellous. Those who are unacquainted with the actual past and with the inherent obstacles ever present in the path of any reform in India may no doubt easily find shortcomings which they are so ready to condemn. Visitors to India during the cold weather cannot have any personal experience of the heat of the tropics with a temperature at least 20° F. higher than that of most parts of Europe. Exhausting and even perilous to health as the climate is to Europeans, the work which they find to do has to be done—the administration of the country cannot stand still. The hot season is followed by the rains, the mean amount of which may be put down at forty-two inches, but varying considerably, of course, in local distribution; whilst in Scinde, the Indian desert, and in the country about Multan there is a rainfall of about four or five inches only, it reaches on the spur of the South-eastern Himalayas, on the Khasia Hills in Assam, a yearly fall of 600 inches. Along the western coast as many as 200 inches are registered, whereas at a distance of less than eighty miles inland scarcely twenty inches of rain fall in the course of the year. This rainfall, as is well known, is periodic. In the North-Western Provinces it begins in the winter season, taking a course from west to east and ceasing at the confines of Bengal; but before these winter rains have ceased in the north the spring storms have gathered in the Bay of Bengal, often developing into destructive cyclonic storms that devastate the sea-coast and sometimes the country for hundreds of miles inland. The summer rain, or what is known as the south-west monsoon, commences at the end of May or beginning of June and lasts till September; heavy clouds covering the horizon, the atmosphere is saturated with moisture, and the Gangetic delta approximately presents almost the appearance of an inland sea. The area of Hindostan is about 1,559,960 square miles; its population, including Burmah, approaches 300,000,000 (287,000,000) and according to the last census return is spread over 717,549 places, of which only 2035 are classed as towns, the rest being classified under the heading of villages. The urban population is in the proportion of 9·48 per cent. to 90·52 of rural. The density of the population varies enormously, from 4 souls to the square mile in Upper Khyndwin and 7 in Salwin to 930 in Saran, not mentioning that of Bombay, which is said to be 35,000 to the square mile. The geological and topographical conditions of the country present many varieties. Scinde is almost a sandy desert, whilst Calcutta and its vicinity on the Gangetic delta stand on an alluvial, fertile soil about ten feet deep, beneath which is a stratum of clay. In Bengal generally the water is very near the surface; in the western provinces of India it is often at a depth of 800 ft.; and, whilst one part of the country is inundated by heavy rains, another part may be at the same time suffering from drought. The atmospheric phenomena in India are, like the country itself, on a vast scale. It must be borne in mind that India has many climates and races, and is as large as the whole of Europe, Russia excluded. The people are for the most part very poor and belong to different nationalities, profess various religions, follow different social habits and customs, and observe diverse modes of burying their dead. The caste system and fatalism also play an important part. As a child of a hot climate, the disposition of the native is naturally apathetic, he desires to be left alone, to live and die in the caste in which he was born; he is ignorant and intensely conservative in his habits and customs. These racial and caste difficulties have consequently all to be taken into account, as well as those of climate and soil, and they add immensely to the obstacles to be encountered and overcome in the practical application of sanitary measures to the country itself and to the personal hygiene or to the dwelling-houses they occupy.

It is almost needless to enter upon a description of the sanitation of an Indian village, for there is a total absence of it. The huts composing the villages and hamlets are erected for the most part on flat land or on slightly elevated ground exposed to the scorching sun and fiery winds or drenched by rain. The people drink from the pond in which they bathe and in which their cattle wallow, surrounded by the refuse of their daily lives. The cattle consist of cows and buffaloes, occasionally of goats, donkeys, and pigs. All live under the same roof and lie upon the ground beside their master and his family. There is hardly a window or an opening for ventilation. The dung-pit is not far from the well water-supply, where the washing of clothes, of animals, and of men is carried on from day to day; and the women provide their households from this source with water for cooking purposes and for drinking. The people have so lived for centuries, knowing and apparently caring for nothing better. These and many others are the difficulties that obtrude themselves upon the sanitarian and the municipal and Government authorities. Sanitary measures, moreover, involve a large expenditure of money, and if the question presents itself between taxation and disease more enlightened people than the Hindoo come to the same determination as he does—namely, to run the risk of contracting disease rather than incur the outlay of providing safeguards against it. Notwithstanding all these impediments much has indubitably been accomplished both by the Legislature and the executive, especially in the way of systems of water-supply and drains. Works for water-supply have already been carried out, and are still being extended in many large towns. In Calcutta, for example, the mortality from cholera alone has been reduced by

an improved system of water-supply to one-third of its former rate. A vital question in connexion with tropical hygiene is the value of European life and the rate of mortality among the troops occupying a country and of the civil population residing permanently in it, for it is mainly on these, after all, that the strength and permanence of the Government of India rest. After the Crimean War the Royal Commission inquired into the sanitary condition of the British Army, and in 1859 its operations were extended to India, and the reports showed that the annual mortality of European troops in India stood at 69 per 1000 for many years prior to 1859. Certain measures were speedily adopted for the better housing, feeding, clothing, and employment of the soldier, with the result that the death-rate steadily diminished, until it was as low as 10 per 1000; but disease and death-rates are, of course, liable to great fluctuations according as epidemics are absent or present.

In a Congress about hygiene and demography we are mainly concerned with the diseases affecting masses of the people in connexion with the conditions environing them at the time of their prevalence. I propose to touch as succinctly as practicable upon three diseases, with a view of stating what our progress has been and what points, as it seems to me, still require further elucidation. These may be conveniently arranged under: (1) malarial or paludal affections, (2) typhoid or enteric fever, and (3) cholera.

1. MALARIAL OR PALUDAL AFFECTIONS.

Malaria and malarious fevers prevail in all quarters of the globe. In the tropics they are intensified by climatic conditions. In South Italy towns and villages are built on mountain slopes. Altitude affords some protection against the influence of malaria. Indian experience teaches us the same fact, but according to Surgeon Parke, an altitude of even 10,000 ft. affords no guarantee against it in subequatorial Africa. Laveran's discovery in Algiers in 1880 of a polymorphic protozoon or vegetable micro-organism in the human blood, which he called "plasmodium malariæ," confirmed subsequently by Marchiafava and Celli in Italy, and by Councilman at Baltimore in America, has placed the study of fever and of allied affections on a basis widely different from the theories entertained before. Laveran describes several (four) forms of the protozoon. In acute malarial fever the amœboid bodies adhere to or occupy the red globules, deriving their black pigment from them; these dark pigmented bodies of various shapes produce melanæmia, that being the deterioration of the blood caused by the parasites. The existence of these micro-organisms is accepted by competent authorities as conclusive of malarial affection. Quinine seems to kill the parasites and to cure the disease. The crescentic forms are common in the blood of the quartan and irregular types and in malarial cachexia. Other fevers, such as the ardent, thermic, bilious, remittent, and fevers complicated with cerebral symptoms arising under tropical conditions, present no melanæmia, no parasites being discovered in the blood, and therefore they are not, it is thought, to be classed under malarial. The presence of pigmented bodies has been confirmed in certain malarious regions of the globe, but it is not yet determined whether they invariably occur in every malarious country or in all cases of malarious fever. A paper will be read before the Section by Surgeon-Major Ronald Ross, in which the writer brings forward certain adverse criticisms on the deductions put forth in connexion with the plasmodium malariæ, and Surgeon-Major Oldham very pertinently still discusses the question, "What is Malaria?" Inoculation with melanæmic blood produces symptoms of fever. *En passant*, I may remark that there seem to be some points of alliance between malarial disease and cholera. Both are apparently connected with the presence of micro-organisms. Atmospheric conditions play an important part in their epidemic prevalence, and the clinical features of one disease may sometimes closely simulate those of the other. Mention is made by the Sanitary Commissioner with the Government of India for 1892 of a severe outbreak of malarial fever at Peshawur which lasted from September to December. Brigade-Surgeon Brown reports fifty-four fatal cases of remittent fever which were extremely difficult to diagnose from cholera, so closely did they mimic that disease in their clinical features. There were purging, vomiting, cramps, and suppression of urine, followed by collapse. Whether the plasmodium malariæ was present in the blood of these patients it is not stated. This virulent form of climatic fever has also been described from time to time by other observers, especially recently by Dr. Alcide Treille, in his very interesting report on "Le Cholera Africain."

2. TYPHOID OR ENTERIC FEVER.

A young soldier or civilian arriving in India is exposed to very different influences from those which surround him in his native home; he is a novice not merely in general experience, because of his age, but he is utterly ignorant of the new conditions that surround him in his tropical abode, where he is exposed, perhaps, to attacks of fatal diseases before his system has accommodated itself to its new environments. Typhoid fever is the malady to which the young European soldier is most liable during his first two years of service. There may be a great difference as to the nature and soil conditions of the station to which he may be sent, but these do not seem to affect materially his liability to this disease. The army reports show that out of seventy-three regiments and batteries which went to India between the years 1871 and 1878 and were dispersed to various districts and stations only nine remained free from typhoid fever. The same susceptibility to the disease still continues in the European army of India. Estimating the liability to die from typhoid fever at 100, the risk of mortality of a recently arrived young soldier, according to the latest sanitary report for 1892, stands at 65·99 during the first and second years of Indian service as compared with 13·67 from the sixth to the tenth year of residence in that country. The constitutional liability of the young soldier to this form of fever, which was first described by Scriven in Burmah in 1853, was subsequently statistically worked out by Bryden, and it is certainly a very striking feature. The glands of the small intestines, examined after death, show distinctly the pathogenic changes. The age at which we send our soldiers to India may be termed the "enteric fever age." After middle age Peyer's patches and the solitary glands cease, as a rule, to be liable to these morbid alterations, and these individuals in all countries usually escape an attack of typhoid fever. Various opinions as to the causation of typhoid fever in India have been adduced. There are two points from which the origin of the disease may be viewed. One is external infection, the other internal, autogenetic, within the system. Budd and Murchison's infection and pythogenetic theories have to a great extent been superseded by the results of the investigations of Eberth, Gaffky, and others, establishing the fact that a specific bacillus is found in the lymphatics, mesenteric glands, spleen, liver, and kidneys, and that these bacteria constitute the toxic element of enteric fever. A plausible hypothesis has been put forward by Marston in explanation of the vulnerability of the British soldier to this fever in connexion with the new environment and changed condition of life to which a young and recently arrived European in the tropics is subjected, and particularly to the high temperature, causing a greater physiological activity in the lymphatics and intestinal canal, with its system of Peyer's and solitary glands. It must be remembered that under a short service system the European military population, as I have said, is exclusively composed of young men of what may be termed the "enteric fever age"—from eighteen to thirty. The sameness of the results of microscopic evidence would go far to establish the identity of all pathological conditions, and the question has yet to be determined whether every case of typhoid fever, however produced, presents the characteristic bacillus of Eberth and Gaffky—a result which, it is presumed, has not yet been attained. It is, moreover, very important to determine the exact relation which Eberth's bacillus holds with regard to the bacillus coli communis. Typhoid fever occasionally attacks the coloured races. In the gaol returns of India several deaths from it are recorded; still, the disease among the natives of India is very rare as compared with its prevalence among Europeans, as shown in the following return of the annual report for 1892, which is quite corroborative of the figures in previous returns:—

Admissions and Death-rates per Mille from Enteric Fever among the European Troops, Native Troops, and Gaols of India compared.

—	1882-91.		1892.	
	Admissions.	Deaths.	Admissions.	Deaths.
European troops ...	14·7	4·13	22·1	5·52
Native troops	0·3	0·09	0·4	0·13
Gaol population ...	0·2	0·10	0·3	0·15

Among the native troops the mortality from the fever is also, as we see, relatively very small, and it is noteworthy that the cases which do arise seem to occur mainly in the Goorkha regiments, the military and dominant race of Nepaul, who feed very much like Europeans, drink alcoholic beverages, and eat meat. The Hindoo, being a vegetarian, eschews animal food, and the Mahomedan substitutes opium for alcohol. British officers seem to suffer in about equal proportion with the men of their regiments, but the women and children, who drink more water and milk than the men, but are much less exposed, apparently suffer less. Assuming that the Eberth-Gaffky bacillus is veritably and indeed the cause of enteric fever, the question of the causation of this fever is narrowed to a consideration of the life-history and development of this micro-organism, and of the way in which it effects an entrance into the body of its victims. Further, fuller, and more precise information is required before a practical application can be made of our advances in bacteriological knowledge in this respect.

3. CHOLERA.

Since Koch's comma bacillus seems to have been universally accepted as pathognomonic—or shall we say pathogenic—of Asiatic cholera, by reason of its being found in the evacuations during life and after death in the intestinal canal of cholera patients, the various hypotheses of the origin and pathology entertained in former times have had to be modified if not altogether abandoned. Virchow adds his great authority in support of Koch's views by stating that "the cause of cholera is a specific bacterium passing from patient to patient by means of fluids, especially drinking water, and, swallowed with food or drink, being multiplied in the alimentary canal, gives rise to cholera."[1] Whilst accepting for the present the view thus enunciated it must be confessed that many difficulties still arise. Assuming the comma bacillus of Koch to be the pathogenic cause of cholera, and rejecting all other hypotheses as useless, including even the generalisations of Bryden, by means of which the course of an epidemic in India has been frequently forecast with tolerable certainty, there still remains much that we do not understand. Looking, for example, at the most recent Indian epidemic, it is stated[2] that the disease broke out with great violence within the endemic area—that is, in the district of Purniah—in March, 1891. The great annual fair of Hardwar was held the next year, cholera making its first appearance among the pilgrims there in March, 1892; they are supposed to have carried the disease as they went into the Punjab, whence it spread to Kashmir and Kabul. In May—that is, a month or six weeks later—cholera reached Persia and Samarkand, and in June it spread death and desolation in several towns on the Caspian Sea. Astrakhan was visited by it, and the authorities publicly certified its presence there on June 18th. It spread over localities on the banks of the Volga. Before July 6th cholera had reached Saratov and Kostroma, some 700 miles up the river, in the centre of European Russia, and in the south it appeared at Shusta and Tiflis. In the month of August the epidemic had already ravaged the north of Europe, and by Sept. 3rd it had reached New York. In this steady progress there seems to have been no interruption, no stoppage, on the route of the epidemic. The year before, we are told, it remained within the limits of the endemic area. On this occasion—that is, in 1892—the fatal bacilli appear to have been carried with a surprising rapidity. I am, of course, aware of the fact that the comma bacillus multiplies with great rapidity, and that cholera spreads frequently along the course of streams and rivers, and it is conceivable that infection of a stream by even one individual may give rise to wholesale poisoning of the riparian population along its course. But the epidemic is not restricted to the vicinity of rivers. Attacks of cholera occur in numerous villages at a distance which do not use river water at all. How did these wells and separate and independent sources of water-supply get their comma bacilli? And when the disease attributable to the presence of these micro-organisms in the well-water ceases what becomes of the enormous crop of these microbes, or why does the bacillus so suddenly lose its pathogenetic properties to become innocuous? Other accounts have been published regarding the Kumbh Mela of Hardwar, stating that "the cholera which reached Europe in 1892 was disseminated from Hardwar in 1891," but the Sanitary Commissioner states that but a few doubtful cases occurred that year among the Hardwar pilgrims, and they dispersed free from the disease, which had, however, ravaged Lower Bengal and spread in the North-Western Provinces, in Oudh, in Madras, and in Bombay prior to the Kumbh Mela. About 70,000 persons assembled for the bathing festival of 1892. Cholera appeared on March 22nd and followed, it is alleged, the track of the pilgrims, especially into Dehra Dun, but epidemic cholera was already there at the end of 1891 and in many parts of the province prior to the date of the Hardwar Fair. "Cases of cholera occurred," continues the Sanitary Commissioner, "to the west of the Punjab and probably in Afghanistan before the outbreak of the disease at Hardwar." Another important point worthy of notice is the fact, which all those who have had any experience among the troops in barracks or prisoners in gaol have had opportunities of witnessing—namely, the beneficial effect which follows upon the emptying of barracks or gaols or changing the camping ground of the troops. This seems to indicate the influence of place and environment rather than persons in localising the cholera cause. No cordon, no special means of isolation, is established round the camp, yet the disease not only did not spread from the supposed point of infection, but, on the contrary, in most cases it ceased almost immediately. How did the bacilli lose their infecting power so suddenly? And how are we to account for so-called sporadic cases, such as one case only in a barrack-room occupied by many soldiers living exactly alike? The discovery of the comma bacillus is an important feature in the history of cholera, and as its position now stands this bacillus is authoritatively regarded as the exclusive cause of that disease, the microbe being communicated from man to man, and especially through the agency of water; but it is also acknowledged that an incubation period, sometimes of several days, is necessary to produce the characteristic symptoms. Such being the case, it seems pertinent to ask, How did the infection in 1892, for example, spread with such rapidity among such enormous numbers? And, again, why was the direction of the epidemic uniformly from east to west, commencing in the Punjab, across Persia, Turkey, Russia, and Northern Europe, to America? The question necessarily arises as to whether the new agency is adequate or not to account for all the phenomena of cholera epidemics, on the exigencies of the bacillary theory. Sporadic cases and cases occurring in the endemic area may be isolated in the hope that the spread of infection will be prevented, but how is the rapid spread of the disease to be explained if the comma bacillus *alone* is the true cause of the disease and has to find its way into the alimentary canal of the patient to give rise to cholera in him and, by multiplication in his body, afterwards to others? The rate at which the epidemic travels and the definite course which it assumes have to be accounted for, whatever agency be adopted. How far Haffkine's experiments, now progressing, may modify our views it is as yet impossible to surmise, nor is it easy to explain the almost endemic and persistent prevalence of cholera near Paris in 1892 and its non-extension to England, with every facility for its spread in that direction by sea traffic. As a counterpart to Koch's views and deductions we cannot overlook the fact, moreover, that many observers, such as Rumpf in Hamburg, Lesage and Macaigne of the Institut Pasteur, Metchnikoff, Lubersch, and others, have proved that true Asiatic cholera occurs *without* the comma bacillus,[3] and the negative experiments of Pettenkofer, Emmerich, Stricker of Vienna, Hasterlick, and Klein lead to the conviction that cultivations of comma bacillus may be toxic, but there is still no positive evidence that they produce cholera. The important subject of parasites, not merely in connexion with intestinal affections and diseases of the skin but with reference to periodic fevers and the filariæ sanguinis, has obtained much light from the successful investigations of Dr. Patrick Manson. The study of hygiene and demography of tropical and subtropical countries has shown the way to a practical solution of many hitherto obscure problems. The excessive heat and snowclad mountains, drought and deluge; the sub-Himalayan belt of jungly and marshy region; the Terai, abounding in deadly malaria; above it, on a higher elevation, the most salubrious mountain air: all these diversities of soil and climate offer numerous points of supreme interest for study and investigation in matters of hygiene and pathology. The result of microscopic discoveries, the knowledge of the nature

[1] Davidson: Hygiene and Diseases of Warm Climates, page 400.
[2] Op. cit., p. 386.
[3] Dr. Wall: Asiatic Cholera, page 142.

of micro-organisms, bacilli, and the various micro-parasites, have already placed diagnosis and treatment in a more satisfactory position than they were formerly, and what still remains obscure and unknown may hereafter be brought to light through the labour of investigators springing up in the midst of every civilised nation of the world.

A Clinical Lecture

ON

DILATATION OF THE RIGHT VENTRICLE.[1]

Delivered at the Birmingham General Hospital on June 4th and 11th, 1894,

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GENTLEMEN,—The early recognition of slight degrees of dilatation of the right heart is of such great clinical importance that I need say nothing by way of introduction to the subject of which I am about to speak. I propose to take up in detail the special clinical features of dilatation of the right ventricle; but before doing so it is necessary to say a word or two as to the nature and extent of this dilatation as seen in the post-mortem room. Briefly, post-mortem study both of the flaccid and distended organ in cases of failure of the right side of the heart shows that the main change is an increase of the right ventricle upwards and to the left. This increase is largely due to a distension of the conus arteriosus and the part of the anterior wall which is adjacent to it. This upward increase may be so great that the pulmonary valves lie under the first left interspace, or even under the first rib, while to the left the ventricle may extend nearly or quite to the nipple line in the second left interspace. Increase to the right of the sternum plays, as a rule, only a secondary part as compared with that in an upward direction. This statement holds true for cases due to valvular disease as well as to those where there is none. Together with this change there is a displacement of the whole heart upwards, and some rotation of the organ, so that the left ventricle assumes a position rather more posterior than normal, while the apex is tilted upwards and outwards, and is often brought into the fourth interspace in or external to the left nipple line. These latter changes are, of course, most evident in cases where valvular disease is not present. For the anatomical considerations which determine the direction in which the right ventricle enlarges, as well as those which determine the displacement of the apex beat, I would refer you to Dr. Foxwell's able paper upon the Condition of the Heart in Debility.[2] I cannot refer to this paper by Dr. Foxwell without saying that I am indebted, directly or indirectly, to his stimulating teaching and writings for a great part of what I am about to say. I may also here add that, owing to the extent of this subject, I am unable to refer here to what has previously been written upon it, but must confine myself to the conclusions to which several years of careful clinical study and investigation have led me.

The physical signs of dilatation of the right ventricle.—These are to some extent disguised or altered in cases of valvular disease by the changes in size which the left ventricle undergoes, and therefore for the sake of clearness I shall describe the physical signs of dilatation occurring in cases with no valvular disease—such as those commonly occurring in anæmia, chlorosis, overstrain during adolescence, or those occurring during convalescence from rheumatic fever or the acute stage of pneumonia. Among these cases of so-called functional dilatation a further distinction must be made, because the character varies somewhat according to the period of life and the circumstances under which it occurs, two slightly different types of dilatation being recognisable. These may be called the adolescent and the adult type respectively.

Adolescent and adult types of dilatation.—In the earlier periods of life, and especially during puberty and adolescence, the heart is naturally less resistant and less rigid than it is late in life, and is therefore more prone than in later life to excessive degrees of dilatation. In the adolescent type of dilatation—to which my descriptions will in the main refer—the increase in size is mainly, and often exclusively, upwards and to the left, giving an increased area of relative cardiac dulness in the third and second left interspaces, and sometimes even in the first interspace. In the adult type, on the other hand, some increase of the cardiac dulness to the right of the sternum usually accompanies the upward increase, and may, albeit rarely, exceed it in amount. I need hardly point out that such divisions as these are not meant to be mutually exclusive, nor are they meant to do more than assist in the mental classification of clinical observations. Further, I do not mean to imply that the adult type of dilatation is a type which occurs invariably above the age of twenty-five or twenty-six, when the right ventricle fails, for in the degenerative period of life the heart may be so rigid that the patient dies with failure of the right heart, but with almost no clinically recognisable dilatation of the right ventricle or, on the other hand, a man of thirty or thirty-five may have his heart substance so softened by rheumatic fever that his right ventricle may dilate just as rapidly and extensively as in any adolescent. The physical signs of the adolescent type of so-called functional dilatation of the right ventricle are fairly definite and characteristic. Inspection and palpation of a well-marked case will show cardiac pulsation in the second and third left interspaces as well as in the ordinary situation, and this pulsation will be noticed to extend outwards for some one inch and a half or two inches from the sternum in the former and to the nipple line in the latter interspace. Further, the pulsation is not powerful, like the apex beat or like that of an aneurysm, and, as was pointed out by Dr. Foxwell,[3] a very characteristic wave of pulsation may be noted sweeping downwards and outwards from the sternal end of the second left interspace. This pulsation is often further distinguishable at a glance from aneurysm by the fact that when the patient is recumbent the pulsation varies with respiration, being most marked with the cardiac beats which occur during the pause between expiration and inspiration, as well as with the first one to occur during the latter act. That this variation is not due simply to the position of the lungs is shown by the fact that if the breath be held at the end of expiration the pulsation is usually less evident than during active breathing. The pulsation can be recognised as being due to the right ventricle and not the pulmonary artery by the fact that it completely subsides before the occurrence of the second sound. The cardiograph also shows it to be ventricular. Detection of the pulsation above described in the second left interspace by palpation, together with the displacement of the apex beat upwards and outwards, is often all the physical examination necessary for the diagnosis of a dilated right ventricle. In addition to this cardiac pulsation there will also usually be noticed pulsation in the veins of the neck, either truly systolic in character and due to the tricuspid regurgitation which usually accompanies the dilatation, or else "false pulsation," occurring only during inspiration, and due not to failure of their valves, but simply to the more rapid emptying of the distended veins which results from the aid given by the inspiratory suction to the forces which fill the right ventricle during the cardiac diastole. As a result of careful cardiographic observation I have every reason to believe that some of these cases of false pulsation are also largely due to a true contraction of the veins preceding, and probably also accompanying, that of the auricle. Frequently, also, the shock of the closure of the pulmonary semi-lunar valves can be clearly felt in the second interspace, and in extreme cases a true systolic thrill not due to valvular disease is present in this interspace over the pulmonary artery, and may even be detected in the subclavian and carotid arteries on the left side and much less strongly in those on the right, just as is the case with the pulmonary systolic murmur with which it is associated. Pulsation may also be noted to the right of the sternum and in the epigastrium, but is less marked, as a rule, in either of these situations than at the base of the heart in the cases now under consideration. The apex beat, as before mentioned, is rotated upwards and outwards, so as usually to reach a point in the fourth interspace in, or external to, the nipple line; but in consequence of the size of the right ventricle it is often prevented from striking the chest wall,

[1] Comprising a portion of a thesis for the M.D. Edinburgh accepted (and awarded gold medal) 1892.

[2] THE LANCET, Oct. 24th, 1891, and Birmingham Medical Review for November, 1891.

[3] Loc. cit.

and may, therefore, be feebly perceptible. The most prominent point of the cardiac impulse is in such a case situated internal to the nipple line, and due to the impact of the body of the right ventricle.

Percussion of the ventricle.—Although inspection and palpation may suffice when dealing with a well-marked case, it is upon percussion aided by auscultation that we have to rely for the early diagnosis of dilatation of the right ventricle. Since the ventricle, when slightly dilated, lies at some distance from the chest-wall and is overlapped by lung, we must rely upon the area of relative cardiac dulness for this diagnosis, and as a matter of practice better results will be got by watching the relative rather than the absolute dulness, because the latter frequently does not increase at anything like the same rate as the former when the ventricle is dilating. In ascertaining the area of relative dulness it is well to do away with the uncertainty arising from the variation in volume of the lungs by percussing the heart while the chest is held in the position of full expiration, and—of course, to percuss with the plexi-meter finger in line with the interspace, and not across it. This is my usual practice when percussing the right ventricle, and I find that although a change of note can frequently be got by this means to the right of the sternum in a normal heart, it is very unusual to get any distinct deficiency of resonance at the sternal end of the second left interspace. It must, of course, be borne in mind that the descent of the ribs in forced expiration will make the position of the heart appear higher relatively to them than during ordinary respiration. This alteration is not, however, as a rule sufficient to cause any relative cardiac dulness in the second left interspace or to make the apex beat disappear from the fifth interspace if the heart be normal. An important feature in the percussion of these "adolescent" cases, and one which has important bearings upon the causation of the basal systolic murmur of anæmia and debility, is the fact that the cardiac dulness in the second and third left interspaces is increased when the patient lies down. The difference is often considerable, and there is frequently as much as an inch more relative dulness in the second space when the patient is recumbent than when in the erect position. Percussion of the heart in dilatation of the right ventricle shows that the area of relative dulness increases upwards into the second space, and broadens outwards in the third and fourth spaces, until in advanced cases the left edge of the dulness almost coincides with the left vertical nipple line from the second to the fourth spaces inclusive. At the same time there may be a slight increase of the relative dulness to the right of the sternum, but it rarely exceeds one inch; on the other hand, there often seems to be an actual diminution of dulness in this direction. The absolute cardiac dulness broadens and also extends upwards, and may in advanced cases reach a width of one inch in the second left space. It rarely extends to the right of the sternum.

Auscultation.—The diagnosis of dilatation of the right ventricle by means of the stethoscope is not so satisfactory as by the methods just discussed, for the auscultatory phenomena are not always definite and constant. Among the physical signs which may be looked for are the following. 1. The well-known pulmonary systolic murmur, audible usually in the second left interspace. 2. Accentuation of the pulmonary second sound, and occasionally true reduplication of the second sound at the base of the heart. 3. The venous hum so well known in cases of anæmia, and called the *bruit de diable*. 4. The murmur due to tricuspid regurgitation. 5. Less frequently a false reduplication of the second sound, audible only over the ventricle and constituting one of the varieties of "bruit de galop" or "triple sound." This sound is quite distinct in origin, in time, and in area of audition from the second sound, and I have for several years called it the "third sound" of the heart. 6. More rarely still, a tricuspid diastolic murmur, accompanying or replacing the third sound above mentioned.

1. *The pulmonary systolic murmur.*—The most reliable and constant of the above-mentioned phenomena is the well-known systolic murmur, audible at the base of the heart to the left of the sternum, and correctly designated the "pulmonary systolic murmur." This murmur is of considerable diagnostic value in the dilatation which occurs as a result of overstrain with or without chlorosis or anæmia in adolescence, for its loudness may be taken as a reliable guide to the amount of the upward enlargement of the ventricle which is present. A good illustration of this is the increase in the loudness of the murmur, which accompanies the increase of the cardiac dulness when the patient lies down. The murmur is also markedly increased by exertion, and this is apt to lead to a fallacy in connexion with the statement last made, for the murmur will be increased in loudness by any sudden change of position. But the above statement that the murmur is proportional in loudness to the degree of upward increase of the dulness does not always hold true for acute cases occurring in pneumonia and allied conditions, for in them the murmur may be faint, although the amount of dilatation is considerable. Speaking, however, of the before-mentioned non-febrile cases of dilatation in adolescents, it can be said that the pulmonary systolic murmur is a good indication of the presence and amount of dilatation in any particular case, and gives the first sign of commencing dilatation and is the last sign to disappear on its subsidence. In slight cases it is only audible when the patient is recumbent, especially after considerable exertion, and is then soft and faint, and its area of audition is confined to a small area one inch or so in diameter at the sternal end of the second left interspace. When well marked, the murmur is blowing in character, resembling the ordinary mitral systolic murmur, except that the pitch of the former is often lower. Its point of maximum intensity is over the second left interspace, usually at its sternal end, although when the dilatation is considerable the point of maximum intensity of the murmur may be as much as one inch or more from the sternum. *Direction of conduction*—It is conducted upwards and to the left to a greater extent than downwards and to the right—in fact, unless very loud, it is usually not heard below the third interspace. When loud it is audible into the subclavian and carotid arteries, although it is better conducted to those of the left than those of the right side. When very loud it is even audible into the axillary arteries and over a great portion of the upper part of the chest anteriorly. It may even be accompanied by a distinct systolic thrill, which in extreme cases may be palpable over a wide area and follows the same lines of conduction as the murmur. *Etiology of the pulmonary systolic murmur.*—The exact cause of this murmur is not perfectly certain, but the pathological condition on which it depends seems, as was pointed out by Dr. Foxwell,[4] to be the upward displacement of the anterior portion of the root of the pulmonary artery. In consequence of the upward dilatation and displacement of the anterior wall of the right ventricle, while the inter-ventricular septum which forms the posterior wall remains fairly normal, there is some distortion of the pulmonary artery. This seems to be of two kinds: (1) alteration in the direction of the artery in relation to the line of the ventricular cavity, in consequence of the artery having to reach its fixed point—viz., the bifurcation of the trachea—from a point under the first interspace, instead of running its usual course from under the second interspace to the bifurcation; and (2) a potential redundancy of tissue in its anterior wall. Normally, the anterior wall runs from a point subjacent to the middle of the second costal cartilage in a curved course to the point where the artery bifurcates close to the spine—a distance, say, of two inches and a half; when, however, the right ventricle is dilated the anterior wall of the artery commences at a spot nearly an inch nearer to the point of bifurcation than normal, while the posterior wall retains more nearly its normal relations. The result of this is that when the artery is full the anterior wall, being somewhat relaxed, will distend more easily than normal, and therefore during each systole there will be formed an aneurysm-like dilatation of the artery. One would expect the bulging to be more marked in the recumbent than in the erect posture, because in the latter case gravitation tends to prevent the heart from taking quite such a high position as it would otherwise do. Strong evidence in favour of the above theory is given by the fact that the murmur increases in loudness proportionally to the increase in dulness which occurs when the patient lies down, the murmur always being louder when the patient is recumbent than when erect. According to this theory the conduction to the vessels of the neck is, of course, due, as was pointed out in the above-mentioned paper, to the contiguity of the aorta and pulmonary artery. If post mortem both sides of the heart be distended with hard paraffin before the removal of the heart and lungs from the body, the anatomical reason for this conduction at once becomes apparent, as well as for

[4] Loc. cit.

the better conduction of the murmur to the arteries of the left side than to those of the right. The production of a thrill is easy of explanation by this hypothesis, for there is an aneurysmal dilatation of the pulmonary artery, into which the blood enters from a direction nearly at right angles to the line of the artery.

2. *Accentuation of the pulmonary second sound.*—Accentuation of the pulmonary second sound is, of course, an extremely common occurrence in these cases, but is of little diagnostic value so far as the presence or absence of dilatation is concerned. The point of maximum intensity of the second sound is, however, of value as giving an indication of the situation of the pulmonary valves. Thus, in dilatation of the right ventricle the point of maximum intensity of the second sound is usually higher than normal, and as the dilatation subsides this point may be observed to alter its position and descend towards its normal situation, showing, of course, subsidence of the dilatation. The degree of accentuation of this sound affords, of course, important information as to the tension of the blood in the pulmonary artery and shows to some extent the amount of work which the ventricle is doing.

3. *Bruit de diable.*—The venous hum usually associated with anæmia, which is audible at the root of the neck over the great veins and is commonly called the *bruit de diable*, is also intimately related to failure of the right ventricle, although I do not think there are sufficient reasons for thinking that it cannot occur apart from this failure. As is well known, this murmur is best heard when the patient is erect, and disappears to a greater or less extent, but often entirely, when the patient lies down. The pathological explanation of this is at once made evident if at a necropsy on one of these cases the trouble be taken of distending the right heart and great veins with hard paraffin before its removal from the body. Such an injection shows very beautifully the constriction of each dilated vein at the point where it joins another vein, due to the mechanical support afforded at these spots. A murmur must arise on the proximal side of each of these constrictions as the blood flows towards the heart. When the patient is erect the action of gravitation is to increase the pressure of the blood flowing into the innominate veins and superior cava from the head and neck, thus increasing the distension of these veins. When the patient is recumbent this pressure is lessened, and, the veins near the heart being less distended, the relative constriction at the points of junction is less, and the venous hum lessens or disappears as a consequence. The clinical importance of the venous hum is that it shows the existence of want of tone in the great veins. This fact may be of considerable importance if, as seems to me to be likely, it be proved that the contraction of the veins plays an important part not only in the filling of the auricle but also in checking tricuspid regurgitation by means of a more prolonged and powerful contraction than normal.

(*To be continued.*)

DEAF-MUTISM: AN EXAMINATION OF THE INMATES OF THE NORTHERN COUNTIES INSTITUTION FOR THE DEAF AND DUMB.

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MY first duty in entering on this investigation is to thank the various gentlemen connected with the Northern Counties Institution for the Deaf and Dumb, Newcastle-on-Tyne—namely, Professor Philipson (the chairman), Mr. Williamson (the surgeon), and Mr. A. Wright (headmaster),—who afforded me every facility in the work. My thanks are especially due to Mr. Wright and his assistant for the very considerable personal assistance they afforded me at the examinations of the pupils under their care, and to Mr. Wright for the statistics of the children admitted to the institution within the last fifty years, which of themselves form a very important item for consideration. To Mr. William Adamson, a gentleman well known in Newcastle and neighbourhood as one who takes the greatest interest in the adult deaf and dumb, my thanks are due for the labour he bestowed in making easy the investigation amongst the scattered adult deaf and dumb population of the district. It goes without saying, of course, that any such investigation as reported below would be well-nigh impossible or even useless without the aid of experts in intercourse with the deaf and dumb unless the observer himself is qualified to the same extent.

My purpose being to give the result of a somewhat strict individual examination by modern methods of the inmates of the institution referred to, a general review of the subject will not be attempted. In any case of deaf-mutism, deafness and muteness are both alike present. It is unnecessary in these days to go into the old fallacy, first propounded by Aristotle, that those who are born deaf are likewise born dumb—a fallacy that died hard, but which, it is to be hoped, is no longer existent even outside the ranks of the profession; while to state that the muteness (not mutism) is an accessory to the deafness is mentioning a truism everywhere recognised. Of much more importance to the present purpose is to refer to the flood of light shed by the bacteriology of recent times on the etiology of this most grave condition. These researches clearly indicate how vastly preventive medicine might act for good towards reducing the number of deaf mutes were it rigidly enforced towards controlling the propagation of zymotic diseases, which greatly preponderate in the etiology of deaf-mutism. Scarlet fever, cerebro-spinal meningitis, and measles are the three diseases that figure most conspicuously in the etiology columns of every investigation of a like nature to this. The gradually increasing number of reliable necropsies of deaf mutes is slowly but surely defining and clearing up the pathology of deaf-mutism. The result shows that in by far the greater number the most serious part of the lesion is situated in the labyrinth, its several recesses being found to be more or less occluded by inflammatory products, chalk, or bone. Here, as in the living state, it is about as difficult to draw a distinction between the appearances found in the congenital and the acquired forms, for apparently the lesions found in either category present no striking differences beyond the fact that in acquired deaf-mutism the destruction of the labyrinth is, if anything, more severe. This fact—the similarity of the lesion of the labyrinth in both forms of deaf-mutism—is significant, and tends perhaps to prove that although in the acquired form a middle-ear affection, more or less severe, is often demonstrable, the essential lesion of the condition is that of the labyrinth. Judging from statistical returns and pathological data, the labyrinth would seem to be approached by the disease not so often from the middle ear as by metastasis from some other part by the several paths of germ invasion (blood and lymph channels, &c.), or it may be that the invasion takes place through the middle ear, leaving, however, that region but slightly damaged. In fact, severe inflammatory reaction in that region would presumably prevent encroachment, in the case of many infections, on the labyrinth. Such, among others, are a few of the points that have weight in connexion with deaf-mutism. They prove, for instance, how impossible it must often be to distinguish clinically in a number of cases between the congenital and acquired forms; also that total deafness in the majority of cases is to be inferred; and that, while middle-ear disease undoubtedly leads up to disease of the labyrinth in a certain proportion of cases, yet that this proportion of cases is small compared to that caused by initial processes in the labyrinth. It is questionable whether, if ever, middle-ear disease can produce deafness comparable in degree to that met with in deaf-mutes.

In drawing up the following tables I made use of the following instruments: (1) a loud whistle; (2) the human voice; (3) an ear-trumpet for adults; (4) for bone conduction, a C 2 tuning-fork (large); (5) for aerial conduction, a C 2 and C 4 tuning-fork (large); (6) a Siegle's speculum and speculum auris; (7) a Politzer's bag; (8) an otoscope; and (9) for examining post nasum, the finger and rhinoscopic mirror. While employing these tests for hearing the pupil's back was turned towards the observer, while an expert watched for any signs of intelligence on the face of the pupil. In every case when applying the test for bone conduction with the tuning-fork, care was taken to find out whether the pupil instanced merely the vibration of the fork or appreciated its sound. The statistics included in Table I. were kindly furnished by Mr. Wright, of 700 deaf-mutes who have been admitted into the Northern Counties Institution, Newcastle-on-Tyne, within the last fifty years.

Table I. gives in three groups of cases the number of children and adults out of which the investigation was made, the statistics of the 700 children being the gift of Mr. Wright, while those of the other two groups are my own production. The numbers are divided in the classical way into the two accepted categories of deaf-mutes—viz., the congenital and the acquired. The varying numerical proportion of the former to the latter is well represented in these figures. In the case of the 700 children the proportion is as nearly as possible 2 congenital to 1 acquired, which agrees with the older statistics; while that of the other two groups represent the proportion in recent tables—viz., a nearly equal division, the congenital being slightly in excess of the acquired. The acquired proportion must always be a varying quantity, seeing that epidemic influences, which, in abeyance in a country in one decade, may by their incidence in the next very much increase the previous percentage of acquired deaf-mutes. In any investigation, no matter how carefully conducted, these statistics can only be looked upon as approximately true, since even with post-mortem material in evidence hard and sharp lines cannot be drawn.

TABLE I.—*Showing number of Congenital and Acquired Deaf-mutes in Three Groups of Cases.*

—	Congenital.	Acquired.	Doubtful.
Children, 117... ...	66 = 57 %	48 = 42 %	3 (M.T. normal, 2; otorrhœa, 1)
Adults, 57	29 = 51 %	27 = 48 %	1
Children, 700... ...	431 = 66 %	219 = 33 %	50

Among the various etiological factors cited as causing deaf-mutism—e.g., consanguinity (*vide* Tables), inheritance, &c. (remote causes)—acute diseases of the brain and the acute infectious diseases largely share in its production. The results I have arrived at are represented proportionately and specifically in Table II. In all three groups scarlet fever heads the list, with a percentage which is unusually high, even at 31 per cent., while 40 per cent. and 44 per cent. may be looked upon as the highest yet recorded for scarlet fever, the nearest being 27 per cent. for Norway.

TABLE II.—*Causes of Acquired Deaf-Mutism in Three Groups of Cases.*

—	Two hundred and nineteen children.	Forty-eight children.	Twenty-seven adults.
Scarlet fever	97 = 44 %	15 = 31 %	12 = 40 %
Brain fever (cerebro-spinal)*	35 = 33 %	10* = 33 %	3
Measles...	26 = 21 %	4 = 7 %	4
Trauma...	14	3	2
Whooping-cough ...	6	2	—
Sunstroke*	3	1*	—
Paralysis*	3	—	—
Fits*	3	—	—
Vaccination	3	1	1
Gastric fever	1	3	1
Fright*	1	2*	—
Syphilis	—	—	2
Diphtheria	—	—	2
Influenza	—	1	—
Unknown	—	3	—
Teething*	27	3*	—

* These taken collectively = 33 per cent.

In Table III. I have given *in extenso* the appearances of the drumhead, naso-pharynx, &c., of all the cases occurring under this head (scarlet fever). It will be observed that out of 15 cases in 5 only does the middle ear show evidence of past or present disease, while in the majority (10) the appearances observed might pass for a condition not far removed from the normal. This, taken together with the absolute form of deafness present, indicates that the seat of the lesion is in the labyrinth, and has in all probability been effected by a scarlatinous otitis intima—a product of metastasis,—and that the middle ear has been but slightly affected. Even in the cases where the middle ear has been gravely affected—and this might have been due to an accidental or contemporaneous disease of the middle ear—yet the labyrinth lesion

TABLE III.—*Scarlet Fever: Children (48), 15 Cases.*

	Age.	Attack at age.	Naso-pharynx.	Tube.	Membrana tympani.	Bone conduction.		Aerial conduction.		Loud noise.		Malleus.
						Negative.	Positive.	Negative.	Positive.	Negative.	Positive.	
Scarlet fever: Children, 15.	14	9	Adenoids	Open	Both perforated	—	1	—	1	—	1	Absent.
	14	6	,,	,,	Normal	1	—	—	1	—	1	Movable.
	15	2	,,	,,	Indrawn	1	—	—	1	—	1	,,
	12	3	Normal.	,,	Destroyed	1	—	1	—	1	—	Destroyed.
	14	2	Ozæna	,,	,,	1	—	1	—	—	1	,,
	13	2	Adenoids.	,,	Normal	1	—	1	—	1	—	Movable.
		9	2	,,	,,	,,	1	—	1	—	1	—
		7	1½	,,	,,	,,	1	—	1	—	—	1
	13	6	,,	,,	Destroyed	1	—	1	—	1	—	Destroyed.
	17	4	,,	,,	Indrawn	1	—	1	—	—	1	Movable.
	7	2	,,	,,	Normal	1	—	1	—	1	—	Fixed.
	7	1	,,	,,	Indrawn	1	—	1	—	1	—	Movable.
	9	2	Adenoids and hypertrophied tonsil	,,	Dull	1	—	1	—	1	—	,,
	12	4	Adenoids	,,	Destroyed	—	1	1	—	—	1	Destroyed.
	10	2	Normal	,,	Normal	1	—	1	—	1	—	Movable.
Scarlet fever: Adults, 13.	19	6	Adenoids	,,	Destroyed	1	—	1	—	1	—	Destroyed
	22	4	,,	,,	Normal	1	—	1	—	—	1	Movable.
	51	4	Catarrhal	,,	Destroyed	1	—	1	—	1	—	Destroyed.
	20	5	Adenoids	,,	,,	1	—	1	—	1	—	,,
	48	4	Normal	,,	Adherent	1	—	1	—	—	1	Fixed.
	16	7	,,	,,	Normal	1	—	1	—	—	1	Movable.
	17	2	Catarrhal	,,	Left gone, right normal	1	—	1	—	1	—	Right movable, left destroyed.
	45	5	Normal	,,	Opaque	1	—	1	—	1	—	Movable.
	26	3	Catarrhal	,,	Destroyed	1	—	1	—	1	—	Destroyed.
	44	6	,,	,,	,,	1	—	1	—	1	—	,,
	31	2	,,	,,	Wax	1	—	1	—	1	—	—
	18	5	Adenoids	,,	Destroyed	1	—	1	—	1	—	Destroyed.
	31	7	Normal	,,	Normal	1	—	1	—	1	—	Movable.
Measles: Children, 4.	15	3	Adenoids	,,	Cicatricial	—	1	—	1	—	1	—
	16	3	,,	,,	Indrawn	—	1	1	—	—	1	—
	15	1	,,	,,	Normal	1	—	1	—	1	—	Movable.
	9	—	,,	,,	,,	1	—	1	—	—	1	,,
Measles: Adults, 3.	29	14	Catarrhal	,,	Opaque	1	—	1	—	—	1	,,
	22	9	Normal	,,	Normal	1	—	1	—	1	—	,,
	30	2	,,	,,	Wax	1	—	1	—	1	—	Wax.

may have been all the same produced by metastasis of the scarlet fever poison. This aspect of the question must not be lost sight of, because we are brought face to face with a condition entirely beyond the saving influence of any remedial measures we know of, and can only appeal for and towards the suppression of such grave conditions to the stringent enactments of preventive medicine.

The acute diseases of the brain producing deaf-mutism are averagely represented, a large number of the cases being found under the guise of teething, paralysis, sunstroke, &c. In some statistics a much higher percentage is given for acute diseases of the brain, as much as 74 per cent. being found for Pomerania, where cerebro-spinal meningitis raged with great severity. This is the affection *par excellence* which caused the deafness, the lesion being an acute inflammation of the labyrinth transplanted from the meninges. By reference to Table IV. it will be observed that in not one case was any very grave abnormal condition observed in the middle ear, while thirteen were totally deaf and nine had remnants of hearing, but only of the most meagre description. The diplococcus pneumoniæ is the supposed producer of cerebro-spinal meningitis and when propagated to the organ of hearing produces deafness by destroying the labyrinth without invading the middle ear. Measles in one group is represented as responsible for 21 per cent. of the cases, and in another for 7 per cent., while a reference to Table III. will show that in seven cases of measles no striking abnormality was observed in the middle ear. Of these, three were totally deaf, while four retained remnants of hearing of no practical utility. In these cases any inflammation of the middle ear that may have existed must have been slight, while the symptomatology of the cases would lead to the inference that in each case there had been an otitis intima producing a necrotic degeneration of the soft parts of the labyrinth.

TABLE IV.—*Brain Fever, Fits, Meningitis, &c.*

	Age	Attack at age.	Naso-pharynx.	Tube.	Membrana tympani.	Bone conduction. Negative.	Bone conduction. Positive.	Aerial conduction. Negative.	Aerial conduction. Positive.	Loud noise. Negative.	Loud noise. Positive.	Ossicle malleus.	Etiology.
Children, 19.	14	1 year	Normal	Open	Indrawn	1	—	1	1	—	1	—	Unknown.
	14	3	Adenoids	,,	Normal	1	—	1	—	1	—	—	Meningitis.
	10	2½	,,	,,	Dull	1	—	1	—	—	1	—	Convulsions.
	10	2½	,,	,,	Indrawn	1	—	1	—	—	1	—	Teething.
	12	3	,,	,,	Concave	1	—	1	—	1	—	—	Meningitis.
	13	¼	,,	,,	Thickened	1	—	1	—	—	1	—	Fits.
	16	2	,,	,,	Normal	1	—	1	—	—	1	—	Pressure on brain.
	14	3½	,,	,,	,,	1	—	1	—	1	—	—	Inflammation of brain.
	12	6 months	,,	,,	Atrophic	1	—	1	—	1	—	Movable	Fits.
	9	3	Normal	,,	Indrawn	1	—	1	—	1	—	,,	Complaint in head.
	13	1	,,	Narrow	Normal	—	1	—	1	—	1	,,	Hydrocephalus.
	11	3	Adenoids	Open	Concave	1	—	1	—	1	—	,,	Sunstroke.
	16	3	,,	,,	Normal	1	—	1	—	1	—	,,	Unknown.
	11	1	,,	,,	Concave	1	—	1	—	1	—	,,	Fright.
	12	1½	,,	,,	Normal	1	—	1	—	1	—	,,	Teething.
	12	2½	,,	,,	,,	1	—	1	—	1	—	,,	,,
	12	2½	,,	,,	,,	1	—	1	—	1	—	,,	Fright.
	16	—	,,	—	,,	—	1	—	1	—	1	,,	Unknown.
	7½	5 months	,,	,,	,,	1	—	1	—	1	—	,,	Hydrocephalus.
Adults, 3.	32	23	Catarrhal	,,	,,	1	—	1	—	1	—	,,	Brain fever.
	23	9	Normal	,,	Destroyed	—	1	—	1	—	1	Destroyed.	,,
	22	4	Catarrhal	—	Right destroyed, left normal	1	—	1	—	—	1	Right destroyed, left movable.	,,

A few words only need be devoted to Table V. The majority of statistical returns show that two-thirds of the cases of acquired deaf-mutism acquire their deafness during the first three years of life, a period during which the petrous bone is most easily invaded and most prone to pathological change. The deafness which is the primary and essential symptom of deaf-mutism may not be discovered in the early months of life and therefore must render somewhat unexact any statistics of acquired and congenital deaf-mutes.

The state of the membranæ tympani and mallei (on both sides) in each individual was carefully ascertained by the aid of Siegle's pneumatic ear speculum, and the results are given in Tables VI. and VII. Judged by results recorded by more than one observer, these figures in my tables of normal membranes may appear abnormally high. Judged, however, by the results obtained while applying the further test of examining the malleus, observing the freedom of motion, &c., I imagine that the results for the drum heads are not far wrong. So long as a membrane

TABLE V.—*Three Groups of Cases, arranged so as to show the Age at which Hearing was lost.*

Age.	Group 1. 219 children.	Group 2. 48 children.	Group 3. 27 adults.
1st year	60	13	0
2nd ,,	58 = 70 %	15 = 81 %	3
3rd ,,	36	11	2
4th ,,	22	5	5
5th ,,	14	0	5
6th ,,	14	1	2
7th ,,	5	0	2
8th ,,	3	0	1
9th ,,	1	1	2
10th ,,	1	0	1
11th ,,	2	0	1
12th ,,	2	1	1
14th ,,	1	—	2
Uncertain.	—	1	—

TABLE VI.—*Showing Condition of Membrana Tympani.*

—	Children. Congenital, 66.	Children. Acquired, 48.	Adults. Congenital, 29.	Adults. Acquired, 27.
Membranes normal ...	42	28	16	11
Membranes retracted...	10	6	2	1
Chronic otitis media...	6	8	6	4
,, ,, suppurativa	2	5	1	7
Doubtful, wax	4	1	2	2
Mixed	2*	—	2†	2‡

* (1) Right, chronic otitis; left, otorrhœa. (2) Left, perforated; right, chronic otitis media. † (1) Left, destroyed; right, normal. (2) Left, destroyed; right, normal. ‡ (1) Right, destroyed; left, normal. (2) Left, destroyed; right, normal.

TABLE VII.—*Showing Condition of Malleus, &c.*

—	Children, 75. 4 doubtful.* Acquired, 27.	Children, 75. 4 doubtful.* Congenital, 44.	Adults. Acquired, 27.	Adults. Congenital, 29.
Malleus movable ...	25	37 = 84 %	14	22
Ossicles diseased, absent, &c.	1	2	7	1
Ossicles fixed	1	3	2†	2§
Wax	—	2‡	2‡	2§

* Doubtful as to etiology, 4: 1 movable, 1 diseased, 1 movable, 1 movable.
† Right, gone; left, movable. ‡ Left, gone; right, movable. § Right, good; left, gone.

was not adherent, showed no chalk spots and was imperforated, and was besides supported by a malleus freely movable by the speculum, it was allowed to pass as normal. A comparison of Tables VI. and VII. indicates that I have, perhaps, put down lesions of the tympanum when really no such thing existed—i.e., if normal freedom of movement of the membrana and hammer is to be taken as an index of a fairly healthy middle ear. The numbers, therefore, found under "chronic otitis media" in Table VI. are true only so far as inference can be relied on in such cases; and, as for "membranes retracted," every aural surgeon is aware how well many a child with retracted drums can hear, and how often the condition is met with associated with normal hearing. In nearly all such cases the drum head, as well as hammer, were movable.

The following tables (Tables VIII., IX., X., and XI.) give the result of an examination of the nares and naso-pharynx, both in children and adults. Either the finger or the rhinoscopic mirror, where possible, was employed to form an opinion of the state of the post-nasum. This part of the examination was carefully carried out. When a successful examination of the post-nasum with the mirror could be made the tonsil was held to be enlarged when it appeared to descend down the nasal septum, while when the finger had to be used only a good-sized plump growth was notified. Judging from the results obtained, catarrh and hyperplasia of the mucous membrane bordering on the ear are present with abnormal frequency both in congenital and acquired deaf-mutes, as frequent, perhaps, and pronounced as among children found applying at an aural clinique for the treatment of deafness.

TABLE VIII.—*Showing the Condition of the Nares in Children.*

—	Congenital, 66.	Acquired, 48.
Hyper-rhinitis	33	19
Ozæna	2	1
Normal	31	28

TABLE IX.—*Showing the Condition of the Naso-pharynx in Children.*

—	Congenital, 66.	Acquired, 48.
Adenoids	44 = 66 %	36 = 75 %
Adenoids and enlarged tonsils	10	5
Ozæna	1	0
Normal	11	7

TABLE X.—*Showing the Condition of the Nares in Adults.*

—	Congenital, 29.	Acquired, 27.
Hyper-rhinitis	6	5
Spur	5	3
Ozæna	1	0
Normal	17	19

TABLE XI.—*Showing the Condition of the Naso-pharynx in Adults.*

—	Congenital, 29.	Acquired, 27.
Adenoids	8	5
Catarrh	7	12
Adenoids and enlarged tonsils	3	0
Ozæna	1	0
Normal	10	10

It might reasonably be asserted that, out of such a number of cases of enlarged pharynx tonsil both in congenital and acquired deaf-mutism, a proportion of cases of otitis media suppurativa must be expected to arise from this cause alone before (in acquired), after, or contemporaneously with an otitis intima, causing acquired deaf-mutism. It might quite well happen, too, that in the following month an acute otitis media leading to an otorrhœa might arise in one of the congenital deaf-mutes examined, from the conditions observed. A year later this individual might be examined, and without a true history of the case the diagnosis "acquired deaf-mutism from middle-ear disease" might be made. Now individuals with as much history of their condition drift into institutions, and the mistake of the supposititious case above becomes repeated over and over again.

The following tables (Tables XII. and XIII.) deal with the results of the examinations by the various tests enumerated above to determine what remnants of hearing, if any, existed amongst the pupils. In producing these I may claim for them that they were conducted with all the care and patience I could muster. Those pupils who did not hear the whistle were considered totally deaf. The hearing individuals near while this test was being used complained of the discomfort it caused them—a proof that its intensity was sufficient. Generally Mr. Wright or an assistant watched the pupil's face carefully for any sign of recognition (of the sound) while the test was used by the observer behind the pupil's back, care being taken to allow no current of air &c. to play on the pupil. The sound of this whistle was considered by those who heard it to be more penetrating than that given out by a bell and not so apt to create secondary vibrations likely to be produced by a large bell, and which might affect the subject being examined. It cannot be asserted that I approached this examination with any bias, for I must admit that I have enlarged my knowledge of the statistics of deaf-mutism *since* making these observations. I was naturally relieved to find that the results I have to produce approximate generally to those supplied by recognised authorities in this sphere of research.

TABLE XII.—*Showing the State of Hearing in 114 Deaf and Dumb Children.*

State of hearing.	Congenital, 66.	Acquired, 48.
Totally deaf	33 = 50 %	29 = 60 %
Loud noise only	19 = 28 %	13 = 27 %
Human voice	7	5
Neither bone nor aerial conduction	51 = 77 %	42 = 87 %
Bone and aerial conduction	4	6
No bone, but aerial conduction	8	5
Bone conduction, but no aerial conduction	3	2
Words	2	0

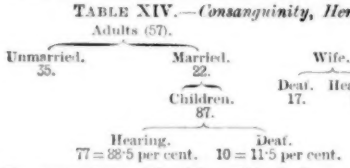
TABLE XIII.—*Showing the State of Hearing in Fifty-six Deaf and Dumb Adults.*

State of hearing.	Congenital (29).	Acquired (27).
Totally deaf	18 = 62 %	15 = 55 %
Loud noise only	2	3
Human voice	9	8
Neither bone nor aerial conduction	26 = 89 %	24 = 81 %
Bone and aerial conduction	2	3
No bone but aerial conduction	1	—
Bone conduction, but no aerial conduction	3	2
Ear trumpet—negative	16	20
" positive	13	7

Mr. Wright states from a general impression that not more than three of his pupils can hear words, and then only through a binaural ear trumpet. Every effort is made in the institution to utilise any remnants of hearing discovered amongst pupils by all the artificial means possible. I cannot claim for my own results that they are any truer than those acquired by a teacher constantly on the watch amongst his pupils for any sign of hearing and as constantly applying tests for the discovery of such as delicate and trustworthy as any I could apply. There is no test requiring more care in the interpretation of its results than that of the tuning-fork in bone conduction. Placing a vibrating tuning-fork on a deaf mute's head invariably causes him to display by facial expression or otherwise some recognition of the act, but the character of this reaction to the tuning-fork must be carefully analysed. It has to be determined whether the pupil refers to the vibrations of the fork on the scalp or to its sound. This point was always carefully settled in each individual case before further progress was made in the examination. The tables prove again what is shown in other returns—namely, that the cases of total deafness amongst the acquired are greater (60 per cent.) than amongst the congenital (50 per cent.). In the case of the adults this ratio is not obtained, but the difference is not so great

but that it might be explained by various circumstances not to be entered into here. What is of importance about the results obtained from the adults is the striking way in which they support the statistics of total deafness in children. With an adult there is not the same danger of misinterpreting the reactions to a test that there is in a child. Both returns (of children and adults) prove to the hilt that more than one-half of all deaf-mutes are totally deaf.

TABLE XIV.—*Consanguinity, Heredity, &c.*



In connexion with this table I beg to incorporate the following items from Mr. Wright's statistics :—

Consanguinity.

1. First cousins. Result: four deaf and dumb children, one of whom married and has three deaf and dumb children.
2. First cousins. Result: three deaf and dumb children and one deaf grandchild.
3. First cousins. Result: one deaf and dumb child; rest of large family all hear and speak.
4. Two cases of first cousins. Result: each had one deaf and dumb child.

Deaf Parentage.

1. Father and mother both born deaf. Result: five deaf and dumb children and one hearing child.
2. Parents both deaf and dumb. Result: one deaf and dumb child (mother born deaf, father's case not known).
3. Woman who was born deaf married a man who lost his hearing at seven from fever. Result: large family, none of whom are deaf and dumb.
4. Four deaf and dumb in the family; father and mother both hear and speak, but mother has two sisters deaf and dumb.
5. One girl has deaf and dumb mother and two deaf and dumb aunts.
6. One girl has deaf and dumb aunt and uncle.
7. Two children have each a deaf and dumb cousin.

The remaining statistics, principally recorded by Mr. Wright, the headmaster of the institution, and referring to matters requiring more space than this paper will permit, I append without further remark :—

Out of 124 deaf-mutes in the institution, 48 were females, 76 boys. Considering that there are more females than males in a general population the contrary state in the deaf-mute population is curious. One explanation given is that the male organ of hearing goes through stronger fœtal development, and is therefore more subject to pathological changes. Again, males are more frequently affected by acute brain diseases than females, especially cerebro-spinal meningitis.

There were 81 children as the result of the marriage of 22 deaf mutes whose wives were mostly deaf-mutes: 95 per cent. of these children had normal hearing, while 12 per cent. were deaf clearly—a larger proportion of deaf mutes than would be expected amongst the children of the same number of ordinary marriages. A few interesting statistics of side relationship are given by Mr. Wright, proving that inheritance plays a part as an etiological factor, remote it may be, in the pathological condition of deaf-mutism. Too intimate relationship in marriage is another predisposing cause and furnishes more deaf-mutes than the children the result of marriage among deaf-mutes themselves.

The headmaster knows of 23 cases of the inter-marriage of deaf and dumb who have hearing children only.

In	1	family	there are	6	deaf and dumb children.
,,	1	,,	,,	5	,, ,,
,,	3	families	,,	4	,, ,,
,,	6	,,	,,	3	,, ,,
,,	32	,,	,,	2	,, ,,

Out of 16 children who were *dumb* but *not deaf* 15 were found to be deficient in intellect.

A great deal might be said about these remoter causes of deaf-mutism—e.g., consanguinity, heredity, terrestrial effluvia, unfavourable social and hygienic conditions, &c., etiological factors which are chiefly considered in connexion with the congenital form of deaf-mutism. The direct causes of this form require more inquiry; but judging from necropsies it would seem that the same direct agencies at work in producing the majority of the acquired forms—viz., "mycotic infections"—might be legitimately accepted as the direct agents also in the production of many congenital cases of deaf-mutism.

The large number of instances of mutism met with in the institution is worthy of notice. There were two cases met with in the present inquiry. The muteness is no doubt dependent on disease of the centres for speech in the cerebrum. This, however, is a question quite foreign to the present inquiry.

Newcastle-on-Tyne.

RAINFALL AND SEASONAL CHANGE IN INDIA.[1]

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I HAVE chosen this subject because of all the causes of seasonal change in the prevalence of cholera rainfall conditions are the most powerful. The influence of rainfall on cholera depends almost entirely on its effect on water supplies; but the rain registers are in India the most readily available indices of the condition of water-supplies generally. Every season of the year is the cholera season of some part of India; and the main object of this paper is to show that, however diverse these cholera seasons may be, one condition, or the nearest possible approach to it, characterises each in its particular district. In each locality a certain definite condition as regards rainfall and its effect on water levels is most suited to the development of cholera; and variations from this supply, either in excess or in defect, are progressively unfavourable. It is not possible at present to give an exact definition of this most favourable possible condition; but it may be approximately and provisionally stated as that condition which provides localised collections of stagnant surface water, with subsoil water nowhere far below the surface, and it must be understood that in some parts of India only an approach to this state is possible. There may be always to some degree a defect or excess in rainfall. In a short communication of this kind the evidence adducible must be curtailed. It is here limited to instances where over large areas the physical and meteorological conditions are sufficiently alike to maintain the one type of cholera season. I will begin with places where cholera particularly avoids the rainy season. Lower Bengal (meteorological area) and the valleys of Assam are the more striking examples. Cholera is here perennial. But in Lower Bengal the heavier mortality is collected into a double-headed rise that nearly fills the interval between successive rainy seasons. In the province of Assam the dip between the two maxima is deeper, producing two separate cholera seasons. Bryden's[2] description of his endemic area applies also to the Assam valleys: "The ground moisture is always within a few feet or inches from the surface, and it requires only the waters of inundation derived from the striking of the monsoon on the hills to place vast tracts of it under water." Geologically it is "a series of beds of silt. ..... These beds are generally quite or very nearly horizontal. ..... Not one of these places does or can afford any natural drainage."[3]

As one goes hence westward through the Gangetic plains the rainfall gets lighter. The mortality from cholera falls (see table), and its season changes. Cold weather cholera first disappears. Further west "spring cholera" becomes insignificant, that of the monsoon attaining prominence. In the Punjab it is, except in years of Hurdwar fair epidemics, nearly limited to the rainy season. As Lewis and Cunningham[4] express it: "In the upper part of India ..... the maximum prevalence of the disease occurs just at those periods when the soil-conditions most closely approach those in Calcutta when in its driest state—viz., during and towards the end of the rains." We have gone from one extreme to the other: from a rainfall of sixty or seventy inches to one of twenty inches or less; from one of the heaviest cholera mortalities to the lightest in India; from a prevalence that is

[1] A paper read at the International Congress of Hygiene and Demography, Budapest, before the Section of Tropical Disease and its Hygiene. [2] Cholera in the Bengal Presidency from 1817 to 1872.
[3] Dr. Oldham's memorandum, quoted by Lewis and Cunningham.
[4] Cholera in relation to certain Physical Phenomena.

perennial with exacerbations to one epidemic only in a limited season; from a dry season cholera to a rainy season cholera; and from the alluvial foam of the Gangetic delta, containing stagnant water close beneath the surface, to a land where "the high intermediate plain stretches from stream to stream in a broad and undulating expanse of sterile sandhills. ..... In these sterile tracts the well water is in many places from 50 to 120 or more feet below the surface."[5] It is here that the south-west monsoon is lost. Bellew[6] says: "The districts (of the Punjab) in which cholera is more or less persistently present, and in which it prevails with activity in each successive epidemic year, are situated in the area traversed by the currents of the south-west monsoon." It should perhaps be noted that these eastern districts differ geologically from the above-quoted description. They are a continuation of the Gangetic plains, "the tract of the great Kunkur clay..... water containing only in its interstratified sandbeds."[7] Bellew[8] also states of this province: "Most of the districts in which it is found that cholera is more or less steadily persistent all through the year are characterised by the presence of greater or less areas covered either by marshes or by stagnant pools, or by obstructed drainage producing a water-logged soil, or by canal irrigation." The extreme immunity of this province is found in a wide stretch of country comprising the Mooltan division and the neighbouring trans-Indus districts. They are usually exempt from epidemic visitation. This comparative immunity accords entirely with the very light rainfall, under ten inches annually. The country is "in the fork between the monsoon influences";[9] but the remarkable point is that the populated tracts here—the lowlands bordering the rivers—are quite independent of rainfall. They are well watered by inundation, percolation, and irrigation channels from their respective rivers; yet they with difficulty receive and propagate cholera infection. It is to be noticed that these valleys are not only watered; they are drained also by the rivers. The subsoil water is mostly not stagnant, as in Lower Bengal; still there are to be found areas, adverted to above, "covered either by marshes or by stagnant pools." It is evident that drainage alone is not the solution of the opposition to the spread of cholera here. It is, I think, plain that the water of these rivers is not under ordinary conditions well suited to the growth of cholera. Hunter[10] says: "The water (of the Indus) derived from the snows of the Himalayas is ..... slightly charged with saline ingredients. ..... On an average the temperature of the water is 10° F. lower than that of the air." The low temperature can, I presume, affect only the main currents, and not the water in the irrigation channels. A minor factor in diminishing the intensity of cholera may lie in the character of the soil. Compared with that of the old endemic area it is "less alluvial, and more dry and mineral in character."

No notice of cholera in India is complete without a reference to the extraordinary rise in mortality and complete change of season displayed in years of Hurdwar fair epidemics. The inevitable spread throughout Sind suggests that in these years at least the Indus and its tributaries have constituted a main means of diffusion. There is no doubt that the virus in the course of development at these fairs has acquired a resisting power well in advance of that ordinarily seen. Two of the last three of these epidemics have fallen in Kumbh fair years; the other was remarkable for very early and excessively hot weather. Possibly this made the river water a more congenial home for the cholera organism. The province of Sind has the same "wide expanse of desert sand," extreme heat, and even more scanty rainfall; but there is one important distinguishing feature: the country is much lower than the Punjab plains, and in places below the bed of the river, "whose overflowing waters are the sole means of distributing fertility through that parched region. ..... Considerable tracts of marshy land are to be found ..... caused by changes in the course of the Indus."[11] The wide presence of stagnant surface and subsoil water explains the increased liability to cholera. The flood seasons at intervals of some years have been characterised by severe epidemics; and the highest mortality has been reached in the Karachi district, which embraces the delta of the Indus. But there is a quite different class of country, in which cholera is, if possible, even more closely associated with times of rain. I allude to the tracts of "black cotton soil" which make up the province of Berar and are found in the Bombay Presidency, the Deccan, the Central Provinces, and other districts. This soil is exceedingly rich and intensely hygroscopic. "If exposed to moist air it will absorb eight per cent. of its own weight. ..... In wet weather the surface is converted into a deep tenacious mud."[12] This soil impresses characteristic features on the prevalence of cholera in districts where it is found. These features are seen most typically in the Berar valley, which is well watered by a fairly plentiful rainfall and by drainage from the enclosing hills. "The soil of the valley is one vast superstratum of black loam."[13] Epidemic cholera in this province is generally entirely confined to the rainy season, and the severer visitations have mostly come when the rain has been unusually heavy. Owing to the remarkable retention of water by the soil, there is often great scarcity of water even for drinking purposes in the hot weather, and "the ground water lies at a very considerable depth."[14] The hygroscopic nature of the soil no doubt accounts for the limitation of cholera epidemics to the rainy season.[15] It may also account for the extremely high mortality occasionally exhibited, such as is approached by that of no other province in India. The excessive retention of rain-water by this soil seems to indicate that it enters into a more than usually intimate union with the soil. It may thus constitute an exceptionally favourable culture medium; and the richness of the soil may be an important feature in this connexion. As above suggested, it is possible that the effect of the opposite condition, sterility of the ground, is to be seen to a slight degree in the low cholera rates of the Punjab.

There is in relation to rainfall a medium type of cholera season, that of the Carnatic (meteorological area comprising the greater part of the Madras Presidency). Its features are well defined. The limit of either excess or deficit is soon reached. Rain is needed, but it must be light. There are here two rainy seasons. The summer, or south-west, monsoon gives only a light fall. It is immediately followed by the rather heavier north-east rains, from October onwards. In an average year the incidence of cholera is at a minimum in the hot weather. It acquires new life with the early rains. There is a short rise up to July or August. Increasingly copious rain then brings the mortality down to a second minimum in October, the month of heaviest rainfall. After this, the fall rapidly diminishing, the repressing force is lifted, and the incidence of cholera develops into the chief epidemic of the year. The effect of the heavier rain here is remarkable. Generally speaking, it does not lead to floods.[16] There is no "submersion of breeding grounds," as used to be said of Lower Bengal in the rains; and even in Lower Bengal it has to be explained how the water of wells and tanks in the unflooded areas becomes less noxious to the drinkers. The common idea of light showers carrying impurities into water supplies, while heavier rain fills the tanks and wells with a body of fresh and pure water, is good as far as it goes; but it scarcely explains the rise in mortality that marks the drying up of the rains. All that can be said regarding the depressing effect on the spread of cholera of heavy rainfall is that it is broadly a question of comparative purity of the water, of dilution of the poison.

Though in this rough sketch only the main types of a cholera season have been depicted as definitely influenced by rainfall, by far the larger portion of British India has been thus represented. The Central Provinces and the Bombay Province are so divided up in natural features as to need more

[5] Hunter's Imperial Gazetteer. [6] History of Cholera in India. [7] Bryden, loc. cit. [8] Loc. cit. [9] Bryden, loc. cit. [10] Loc. cit. [11] Hunter, loc. cit.

[12] Captain Newbold, Journal of the Royal Asiatic Society. [13] Hunter, loc. cit. [14] Sanitary Commissioners of Berar, 1890. [15] See Government of India Sanitary Report for 1890.

[16] I had expected to be able to give some definite information on the soil and water-supply of Madras. Unfortunately, it is not forthcoming. The following extracts from the Government of India Sanitary Report for 1876 give, however, some idea of the supplies of the Carnatic meteorological area. Tanjore is taken as a type of the low-lying country near the sea, and Bellary of the higher ground above the Eastern Ghauts: "The district of Tanjore is an alluvial plain formed by the delta of the Kaveri River ..... the whole district is one highly irrigated rice-field. It is not a swamp, however, but an upraised delta, every part of which is well elevated above sea-level." Bellary: "In November [1876], however, the [cholera] mortality again commenced to rise, and continued to rise rapidly during the next four months. ..... The effects of the drought, resulting from the deficient rainfall of 1876, began to be felt in Bellary early in October. ..... The great diminution in the mortality from cholera that occurred after March [1877] was probably due to many tanks and streams having become dry and the people being compelled to resort to the deep wells, in which the water would be purer." Thus the low land may be taken as distinctly not waterlogged, like Lower Bengal; while on the higher ground it is only in quite exceptional drought that a low water-level may abolish the prevalence of cholera, as in Berar and the Punjab. This is a slight indication that this country may be regarded as of medium type in water-supply as well as in the prevalence of cholera.

detailed treatment than can here be devoted to them; and in hilly, broken country, such as the Konkan (a part of the Bombay province), the conditions of water-supply being so obviously varied, it is not surprising to find that there is practically no cholera season there. The disease is here as likely to come at any one season as at any other. I think enough has been said to illustrate the fact that for the prevalence of free epidemic cholera a certain moderate amount and high level are needed in water-supplies, and that this quantity, being attained or approached at different periods of the year, according to locality and rainfall, is the main cause of seasonal variation of epidemics throughout India. The suggestion that the depressing influence of very heavy rain on the manifestation of cholera is simply the result of over-dilution is further borne out by the following observation. It is that, generally speaking, heavy rain is capable of completely blotting out epidemic prevalence. It can only temporarily depress it. This is true of the very heavy rain of Assam and Bengal, and of the comparatively heavy north-east rains of the Carnatic. The only instance of a stronger influence than this that I have been able to find lies in the variations above normal of the light south-west monsoon in the Carnatic. This requires a little attention. The explanation probably lies in the fact that the period of the south-west monsoon is here to be regarded as the breeding season of epidemics,[17] and a slight excess of rain at this period is fatal; whereas if the showers remain light the epidemic becomes established, and later heavy rain can only temporarily check it. Some almost of the highest mortalities from cholera here have immediately followed excessive autumn rains.

From all this it is seen how the disease comes to be perennial in countries such as the old "endemic area." It is simply that the water-supply there is always at least sufficient; on the other hand, scarcity (which means low level) of water, seen in Berar and in the Punjab, is the condition associated with complete seasonal disappearance of the disease. Of this there are at least two explanations. An obvious one is that the depth of water below the surface renders wells less liable to pollution, but it is obviously also incomplete. I believe that the more influential factor is purely a matter of temperature. The stimulating influence of high temperatures on cholera is too well known to need support here. The depth of well water in these districts after the rains are over probably places it beyond the influence of a winter sun's rays; and, though the cholera organism may survive in these wells, its vitality is lowered and it is unable to multiply rapidly. But it must be acknowledged that even in Berar usually a few scattered pools persist in the river beds throughout the year; and there may be small outbreaks of the disease traceable to their use. Cholera has even on rare occasions, when the temperature has been persistently higher than normal, been mildly epidemic in the hot weather here. Probably on these occasions the sun's rays to some degree penetrated even to the deeper water levels. In the winter months this has never happened; the sun is not powerful enough. Hence there have been nothing beyond isolated cases and the smallest outbreaks. The influence of recession of water level below the surface in these countries of scanty supply is seen in the fact that they are the only provinces quite exempt from outbreaks and epidemics for a portion of the year; and the cold weather temperature of Berar is not lower than that of Lower Bengal or Assam. It will perhaps be as well to give another illustration of the effect of recession of water level and of atmospheric temperature on cholera intensity. In Lower Bengal cholera is at a minimum during the rains because the organism is sparsely scattered through the flooded water supplies. It rapidly rises, with a falling water level, till December. The cholera material is now more concentrated, and the water level is still high enough to be within the influence of the sun's rays; but after this the well water still recedes, and, I presume, does not get quite sufficiently heated. The mortality from cholera hence drops somewhat till February. The hot weather then begins, and the water level remains practically without further change. The consequence is that the organism revives, and the mortality rises to the maximum of the year in April. It is noteworthy that the rain of May at once depresses the cholera rate, though it produces no drop in temperature nor affects the level of well-water. It must act by diluting the poison in the water of tanks.

The character of the increase of cholera in the greater part of India shows that the cholera organism may lie dormant in water-supplies, only exhibiting pathogenic properties (possibly owing simply to rapid multiplication) when the conditions of temperature, rainfall, pressure, &c., are favourable. I have recently published papers[18] showing so close a relation between the weather and the disease in Bombay, Madras, and—I think—Berar, that cholera must be widely endemic in these provinces: yet not so typically endemic as in Lower Bengal and the Assam valleys, for the influence of human intercourse is more visible in outbreaks in the former provinces, though it is lost in the epidemic history of the provinces, each being considered as a whole. Probably the proportion of water-supplies in which the organism can find a permanent home is much smaller than in the Gangetic delta; yet they must be widely spread. On the other hand, in the Punjab and Sind cholera is almost on foreign soil. Judging from the results of the Hurdwar fair epidemics, human agencies here appear to have a larger influence on epidemic prevalence than have weather conditions. Endemicity and spread by infection stand at the two ends of a scale.

Confusion seems to have arisen between the terms "endemic" and "perennial," probably because both are characteristic of cholera in the delta of the Ganges. The fact that cholera is perennial in a district simply indicates the stagnation of subsoil water and its nearness to the surface. In some of the low-lying districts of Madras and Bombay the disease continues throughout the year; but there come breaks in its prevalence of one or more years. It is not more endemic here than in districts of definite seasonal limitation. The disappearance of the disease on black cotton soil in the winter in no way implies a need of reinfection from without to start its next seasonal manifestation.

In conclusion, I have done little more in this paper than collect and connect a few well-known facts. The inferences drawn are some of them speculative. Though they cover all the facts as they are at present known to me, much more exact evidence is needed before they can be regarded as other than mere suggestions, and the peculiarities of Indian water-supply must be taken into account. Generally speaking, there are two distinct sources of supply: (1) wells, usually shallow wells; and (2) surface water, including "tanks" or reservoirs, pools, and running streams; and the two classes are generally combined in the one district. The result may be somewhat confusing. Shrinkage of tank supplies may mean concentration of specific poison in them, and hence increase of cholera. Carried a stage further, it may enforce a freer use of well water, possibly now pure, though being at a considerable depth. On the other hand, the influence of a moderately high level of well water may be counteracted by flooding of tanks and river beds.

Table showing Decrease in Cholera Mortality and Rainfall westward from Lower Bengal.

District or Collectorate.	Average annual rainfall in inches at the chief station of the district.	Cholera mortality, average annual ratio per 1000 of civil population of the district.
24 Pergunnahs... ...	61·50	2·37
Patna	43·12	1·57
Allahabad	38·51	1·19
Cawnpore	31·29	0·65
Delhi	28·00	0·37
Mooltan	6·90	0·13

Rajkote, Kattywar, India.

[17] Indian Medical Gazette, April, 1894.

[18] Indian Medical Gazette.

THE TREATMENT OF PROLAPSUS RECTI BY GALVANISM.

BY R. B. MITCHELL, M.D. EDIN.,
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THE treatment of prolapsus recti by galvanism, though not mentioned in any works on surgery that I have seen, would still appear to be of some value; and the fact that I have

lately employed this means successfully in three very bad cases induces me to put on record the following brief notes on the subject as likely to be of some interest.

CASE 1.—A man about fifty-five years of age, suffering from melancholia with homicidal tendencies. Prolapsus recti occurred in March, 1892, and recurred frequently till the following July. Galvanism was applied soon after the bowel was replaced on the first occasion, and about once a week thereafter. After four months' treatment the bowel ceased to protrude, and between July, 1892, and May 13th, 1893, at which latter date the patient was sent to Ireland, no relapse occurred. He thus remained well for a period of at least ten months, and the tone of the sphincter seemed quite restored at the date of his leaving the asylum.

CASE 2.—A female chronic maniac fifty years of age. Prolapsus recti occurred in December, 1889. She concealed her condition at first, and when it was detected the protruded portion of gut was as large as a cricket ball and intensely congested and bleeding. The hernia could not be reduced till the patient was put thoroughly under chloroform. After the bowel was replaced the sphincter was so relaxed that five fingers could be easily inserted into it nearly as far as the proximal ends of the third phalanges. Galvanism was soon applied, but the bowel came down again frequently—in fact, almost every time that micturition was performed and every time that the bowels were evacuated. The cure was doubtless delayed by the obstinate conduct of the patient in concealing her condition every time a prolapse occurred; but after six months of galvanic treatment the bowel ceased to protrude, and the patient has now remained quite free from any return of the disorder for over three years and a half.

CASE 3.—A man thirty-two years of age. This patient was suffering from general paralysis of the insane and great impairment of the motor and coördinating powers of the lower limbs. Obstinate constipation was a feature of the case. Prolapsus recti first occurred in December, 1892. Galvanism was applied frequently for six months without much apparent benefit; but after eight months' treatment the bowel seemed to have lost its tendency to come down, and now for four months the patient has been quite well in this respect. The state of the spinal cord constituted a very unfavourable element in the prognosis in this case.

Remarks.—Galvanism seems to have been successfully employed over thirty years ago in three cases of prolapsus ani,[1] this is the only reference to the subject that I can find. In my cases an ordinary Smee's battery was employed. One pole was applied to the sphincter ani, the other pole to the spinous processes of the sacral and lumbar vertebræ, and the current made to pass for five minutes. This was repeated once or twice a week, whenever the bowel had to be replaced. The strength of the current was slight at first and gradually increased to nearly full strength. One disadvantage of this method of treatment is the long time required to effect a cure, but it must be admitted that more frequent applications might have been followed by more rapidly successful results. The classes of cases most suitable to treat in the way above noted are probably children and other restless patients, especially lunatics, who generally cannot be trusted to leave alone the wounds following an operation about the anus, and who are generally with the greatest difficulty prevented from tearing off dressings and bandages, or any retentive apparatus.

Rosslyn Castle, N.B.

CIRCUMSCRIBED ATROPHY OF THE HAIR AND SKIN OF THE SCALP.

BY TOM ROBINSON, M.D. ST. AND.

IT is not within the range of these few remarks to allude to the common form of bald patches which are met with in the hairy parts of the body. These are undoubtedly due to the invasion of the skin by a micro-organism, and they are known by the generic name of alopecia areata. But I am desirous to call attention to a group of cases which, so far as I know, have not hitherto been described, and which are distinguished by the following attributes:—1. The atrophic areæ are confined to the scalp. 2. The areæ are absolutely bald. 3. The areæ are depressed like ordinary scars. 4. The hair never returns. The following case is an example of the condition.

A woman thirty-nine years of age, who has always had a fair share of health and who is the mother of six children, came to me in 1893 because "her hair was coming out." There was nothing unusual in her skin or epidermic structures, but on examination she had a cluster of bald patches on her scalp, which were practically confined to the parietal regions. They varied in size from a split pea to a shilling; some had joined at their circumference. I could not obtain a history of any inherited tendency towards the condition, and it may be taken as a fact that she had not been syphilised. Neither had she at any time been the subject of severe headaches or had any injury. The scars (for such they literally were) resembled those one sees when lupus erythematosus attacks the scalp or when a scald or a burn has been inflicted. I have looked carefully through my notes taken during the last ten years, and, although I find that thirteen such cases have consulted me, in every instance the patient has been a woman. I have naturally asked myself the question, "Why do these patches occur?" and I confess to an inability to find a satisfactory reply. The medical man might shelter himself behind a theory of local anæmia, which in the first degree would produce a diminished growth of hair, and if continued would lead to atrophy or even to local death, but no one would accept such a hypothesis. Cases of loss of hair which have been either a sequel or a symptom connected with profound disturbance of the nervous system are on record. Cooper Todd described the case of a man who fell from a waggon and sustained injuries which caused hemiplegia and loss of consciousness, and who one day on going to shave himself could not find any beard. Fischer, who had great experience in military surgery, noticed after gunshot wounds that the limb corresponding to the wound received (if that wound had interfered with the nervous integrity of the part) became bald. Virchow describes a circumscribed atrophy which has been observed in one-half of the face, but at times in other parts of the body. On careful examination of the whole cutaneous area of an old man evidence of cutaneous wasting will usually be found occurring locally and generally, the skin being wanting in lustre, and in some old and thin men I have seen the epidermis of the face and shins stretched over the bones like a piece of hog's bladder. Wilson called the condition *dermatoxerasia*. Celsus, in his chapter *de areis*, describes a form of baldness which probably refers to the case now under discussion. It is what he calls the worst form—namely, that which destroys the fat and renders the surface totally smooth—but he confuses it obviously with alopecia areata. One may without any unfair straining of theory easily understand that the injurious and positively cruel way in which women produce the curling of the hair will account for an injury to the scalp. Curling pins, curling irons, and curling papers form an essential part of the toilet armoury of almost every woman, and this torturing of the hair drags on the roots, and by so doing starts the inflammation which may be the forerunner of this atrophy. The scalp being so dull of sensation will enable the victim to bear a good deal of tension without much suffering. Again, the number of hairpins used in dressing the head may damage the scalp.

Prince's-street, Cavendish-square, W.

[1] Medical and Chirurgical Review, vol. i., p. 106, 1859.

RECOVERY FROM OVARIOTOMY: FIVE WEEKS SUBSEQUENTLY DEATH FROM CANCER OF THE PANCREAS AND DUODENUM.

BY JOHN D. MALCOLM, M.B., C.M., F.R.C.S. EDIN.,
SURGEON TO THE SAMARITAN FREE HOSPITAL.

A CONGENITAL deaf-mute, single, forty-nine years of age, consulted me on Feb. 23rd, 1892, on account of an enlargement of the abdomen, which had been increasing for about five years, and yellowness of the skin, which had existed for three months. Emaciation had taken place, but not to any great extent until the last four or five months, during which time it had been very rapid, and the abdominal swelling had also increased more quickly. There had been

no pain unless the bowels were more than usually constipated, when there was a complaint of soreness in the back. The only facts in the family history bearing on the case were that a brother and a sister of the patient were deaf-mutes and her father's sister had died of cancer. The patient was of a bright yellow colour all over, was extremely thin, and obviously very weak. There was no difficulty in diagnosing a large ovarian cyst pushing a small healthy uterus forwards and extending above the costal margins. The respiratory, circulatory, renal, and alimentary systems showed no evidence of disease except that there was much constipation, with absence of bile from the stools and its presence in the tissues and in the urine. There was occasional vomiting, but this was not an urgent symptom, and did not occur at all between the date of my first seeing the patient and the date of operation. During that time the temperature was taken night and morning. It varied from 99° to 100·4° F. in the axilla. The pulse was fairly steady, about ninety to the minute. Menstruation had ceased at the age of forty-one, and had never given any trouble. The presence of the ovarian tumour made any examination by palpation in the region of the gall-bladder quite impossible. The uncertainty of the nature of the obstruction which existed in the gall-ducts seemed, therefore, an additional argument in favour of removing the cyst, although the condition of the patient was by no means such as to promise success, especially if a tedious operation should be necessary. The absence of any history of pain was against the view that the obstruction was due to gall-stones, but with the possibility that this explanation might be correct there was no alternative to treatment by operation. On March 1st I removed, without any difficulty, a simple cystoma of the left ovary, weighing 5½ oz. and containing fourteen pints of fluid. In spite of the frequent administration of purgatives and enemata for a week before the operation the colon contained a large amount of hard fæces. The gall-bladder was greatly distended, and in the position of the head of the pancreas—or, I thought, a little lower down—there was a somewhat oval retro-peritoneal tumour about three and a half inches in diameter and much flattened from before backwards. It was impossible to remove this, and I therefore closed the abdominal incision in the usual way. Six hours after the operation the temperature had risen to 103° F., the highest point recorded. It gradually came down, and after about a week it was very much the same as before the operation. The record was a little higher, but the temperatures were taken in the vagina, and previously they had been taken in the axilla. The pulse did not go above 96 to the minute at any time. There was no sign of difficulty in the action of the kidneys, and the bowels gave little trouble. I began to clear the colon by enema the day after the operation. The bowels were thus moved twice that day, and afterwards daily, or oftener. A little milk and water was given on the third day, the quantity being gradually increased. Beef-tea was added to the diet later, nutritive enemata being given whenever the rectum was sufficiently empty, until the patient was able to take food freely by the mouth in the course of the second week. She vomited on the afternoon of the sixth day, and again several times on the twelfth day. These were the only vomitings, and convalescence from the operation was otherwise as satisfactory as possible in a patient so feeble. She was bright and happy, would talk incessantly to anyone who could use the dumb alphabet, and expressed herself as much more comfortable without the tumour. Hard fæces in the colon were felt through the abdominal wall for nearly three weeks after the operation. As they were gradually removed the distended gall-bladder became very prominent, but I could not define the neoplasm behind. Of course I did not make any serious attempt to do so, as manipulation could do no good and might do harm. In the third week the patient was encouraged to get out of bed on to a sofa, but she was stronger the first day she was up than on any other, and it quickly became obvious that it was not safe to permit this exertion. She remained cheerful and comfortable as long as she lay still, and there was no further trouble except the rapidly increasing weakness. On the thirty-fourth day after the operation the patient died, while quite quiet in bed, somewhat suddenly.

The following post-mortem report is by Dr. Allchin:—"The body was much emaciated and of a uniform bright yellow (icteric) colour. There was scarcely any subcutaneous fat. The scar of the incision, about two inches long, below umbilicus in the middle line, was quite healed. There was complete absence of fat from the mesentery and omentum; the latter was adherent to the abdominal wall along the line of the operation incision. No recent peritonitis was observed. There were about three ounces of bile-stained serum in the peritoneal cavity. Examination showed the head of the pancreas to be the seat of malignant growth, which had involved the entire descending (middle) portion of the duodenum, scarcely a point remaining, the new growth forming a villous fungating tube replacing this part of the duodenum and maintaining the continuity of the canal between the first and third portions. The common bile-duct was involved in the growth, and was occluded, causing an enormous distension of the gall-bladder (to the capacity of about a third of a pint), which was full of very dark viscid bile, and the walls of which were much thickened. No gall-stones were found. The entire mass of new growth was about four inches across and an inch and a half thick and at one spot was extremely thin, and would certainly very shortly have burst into the peritoneal cavity, between which and the gut communication would have been established. The body and tail of the pancreas were hard, but there was no naked-eye appearance of new growth. No secondary growth was detected in other organs, and these were for the most part healthy. The uterus and the right ovary and tube (two ounces and a half) were quite normal. The stump of the left tube with ligatures appeared to be healing healthily. There was no peritonitis about it, and it lay free in the pelvis without adhesions."

That this patient was not adversely affected, but was rendered more comfortable and underwent a fairly normal convalescence after the removal of an ovarian tumour within five weeks of her death from cancer of the pancreas and duodenum, seems sufficiently remarkable to be put on record. The administration of purgative enemata twice on the day following the operation and very frequently afterwards was also unusual. The treatment is not to be recommended in many cases; but it seemed to me safer, in this particular instance, than to leave the colon packed full of fæces for several days. Such a condition could hardly have failed to cause abdominal distension, which would have seriously affected a patient so weak. The association of extensive disease of the duodenum with complete absence of vomiting due to chloroform, and with the almost complete absence of this symptom and of any sign of difficulty in digestion during the whole time the patient was under observation, is also worthy of note.

Portman-street, W.

COLOURED MILK.

BY P. RHYS GRIFFITHS, M.B., B.S. LOND.,
MEDICAL OFFICER TO OUT-PATIENTS, THE INFIRMARY, CARDIFF.

IN the late summer of 1891 a woman thirty-nine years of age presented herself in the out-patient department of the Infirmary, Cardiff. She stated that during the hay harvest in June, when she was five months pregnant, she noticed some irritation and itching of the breasts. On examining them and squeezing the nipples a greenish fluid exuded. When seen on July 25th I was able to squeeze out from the breast about a drachm of this fluid, which to the naked eye was in all respects except colour like normal milk. A specimen examined under the microscope revealed only the general characters of milk. My first impression was that the colour was probably due to the presence of bile pigment, but on submitting the secretion to the usual tests for bile I was unable to obtain any evidence in support. There was nothing in the condition or the appearance of the patient, moreover, to suggest this; no jaundice and no change in colour of urine or fæces. I sent to my friend, Professor Halliburton, F.R.S., some of the milk which had been allowed to evaporate to dryness, and he agreed with me that the green colour was not due to the presence of bile pigments. He further submitted the specimen to careful chemical examination. His report was as follows:—

"1. The lumps are insoluble in water, alcohol, chloroform, and ether. 2. With nitric acid the pieces are changed to yellow, deepened to orange by ammonia. This, I take it, is the xanthoproteic reaction due to admixture with casein and other albuminous matter. There is no play of colours like that obtained from bile pigment. 3. Hæmin test negative.

Hence it is not an iron-containing derivative of blood pigment. 4. Iodine and sulphuric acid give no distinct blue or violet colour. This excludes lipochromes (fatty pigments); the solubilities of the substance are, however, against this supposition. 5. Boiled with hydrochloric acid and a drop of nitric acid, then shaken with chloroform, no pigment is dissolved out by the chloroform, and therefore we may conclude indigo is absent."

The results of the chemical examination were only negative. Professor Halliburton expressed the opinion that the colour was probably due to an aromatic body produced by bacteria. This no doubt is the correct explanation if one may judge by analogous changes produced in milk outside the body under the influence of bacteria. Unfortunately, the bacteriological examination of the milk was not made. The patient disappeared from observation, and the little secretion that I had rapidly became putrid. When I saw the patient about two months later the green colour had entirely disappeared. The case was a most interesting and curious one, and I believe it is unique. The literature of coloured milk, as far as I can ascertain, affords no similar instance of such a change in milk before it has left the mammary glands. Bile pigments were described in a case of jaundice by Franck, but subsequent observers have failed to find them.

Blue milk[1] owes its colour, according to Fürstenberg, to triphenyl rosaniline. The colour is due to the development of bacillus cyanogeneum, and it is found in the serum of the milk. Blue milk is said to cause diarrhœa. Red milk is due to the presence of micrococcus prodigiosus, which grows with great rapidity in milk allowed to stand. The micrococcus itself is colourless. The colouring matter is probably fuchsin. Yellow milk is produced by the growth of bacillus syxanthus. In cattle plague[2] the milk may be red owing to the presence of blood.

According to Hueppe some of the pigments produced by the chromogenic bacteria belong to the aniline and others to the phenol colouring matters.

Cardiff.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

COEXISTENCE OF INFECTIVE DISEASE IN THE SAME INDIVIDUAL.

BY G. WRIGHT HUTCHISON, M.D. ABERD., M.R.C.P. ED.,
PRESIDENT OF THE OXFORD BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

THE following case may prove interesting.

On April 30th, in the midst of an epidemic of measles, I was asked to see a boy five years of age, the youngest of a large family. At my first visit I was told that four of the children had passed through an attack of measles, and were then convalescing. They were kept warm in bed and fed on slops, and, the rash having developed kindly and the cases apparently doing well, medical aid was not sought. My little patient had been vomiting, shivering, sneezing, and running at the nose, and he was complaining of headache, general malaise, and aching of the limbs. His forenoon temperature was 101° F. I gave it as my opinion that the child was probably developing measles. The above symptoms went on for eight days, when very offensive diarrhœal motions, with tympanitic distension of the abdomen, and in a day or two a rose-coloured rash, appeared. Enteric fever was now diagnosed. Things went on as they generally do in a moderately severe case of enteric fever in a child, when, towards the end of the third week of illness, the evening temperature being under 100°, one morning a copious measles rash came out on the upper part of the body. The measles ran its usual course, the rash coming out in three crops. Convalescence began at the end of a week. The little patient could not be kept in bed. He had to be dressed. In another week the temperature again went up, and diarrhœa again came on. He had a relapse (typhoid). In ten days this subsided. He once more convalesced, this time rapidly and decidedly, and he has kept well ever since.

Chipping Norton, Oxon.

[1] Reiset: Comptes Rendus, vol. xcvi., pp. 682, 745.
[2] Comptes Rendus, vol. lxxiii., p. 1339.

A NOTE ON THE REFLEX EFFECTS OF GASTRIC DISTURBANCE.

BY J. SNOWMAN, M.R.C.S. ENG., L.R.C.P. LOND.

IT is now generally recognised that the stomach, and particularly the gastric mucous membrane, should be looked to for the explanation of many transient cardiac derangements, such as palpitations and pain. These conditions are occasioned by abnormal impulses transmitted along the nerves—cerebro-spinal or sympathetic—which are distributed to the heart. These impulses are started in the stomach by certain morbid changes occurring therein acting as stimuli to the nerve terminals of the vagus. Now, these impulses arriving at the medulla, may influence the centres in its substance or may become reflected to various viscera, notably the heart. An indigestible meal produces a sudden attack of syncope by reflex stimulation of the vagus *viâ* the cardio-inhibitory centre; chronic dyspepsia produces palpitation either by inhibition of the vagus centre or reflex stimulation of the sympathetic. With increasing knowledge it will be fully realised how the events of gastric digestion or indigestion are fraught with weal or woe for the body generally. There are several well-recognised reflex results of gastric disturbance, others still remain obscure. The cardiac results may be regarded as the best known; there are the vaso-motor phenomena which produce urticaria, and the cerebral conditions which cause headache and vertigo. It is to the reflex effect on the pulmonary system that the following case points.

A woman forty-six years of age, of neurotic temperament, with good family history, complained of slight colic on the evening of July 22nd last. The following morning she stated she had suffered from severe diarrhœa, with griping and tenesmus and pain in the epigastrium. Thirty grains of aromatic chalk powder with opium were given. A few hours afterwards I was hurriedly called in. I found the patient practically in a condition of collapse, with cold skin, slow pulse, low temperature, and pale countenance. She informed me that, feeling faint, she had eaten some sardines with bread, when shortly afterwards she was seized with an attack of shortness of breath and an intense feeling of asphyxia. She had to struggle violently for air, and for some seconds she felt as though she would be choked. She was much terrified and feared impending suffocation. The attack lasted about three minutes, leaving the patient in the exhausted condition just stated. The simplest explanation of this "asthmatic" attack can, I think, be found in regarding it as a reflex action from the stomach. It is obvious that the organ was in a slight condition of gastritis. This in itself is often sufficient to give rise to several reflex troubles. There can be little doubt that the addition of the sardines—at best a member of the tinned-fish edibles—acted as an irritant to the already highly irritable state of the mucous membrane and set up morbid changes in the nerve terminals of the vagus which caused the dyspnœa, just as in other cases it might cause palpitation. The dyspnœa may be regarded as due to direct stimulation of the respiratory centre or possibly to spasmodic contractions of the bronchial tubes. If the latter be the case it may afford an explanation of the attack of "true asthma," which is often precipitated by an indigestible meal.

Oxford-road, Kilburn.

POISONING BY FATIGUE PRODUCTS.

BY W. ATKINSON WOOD, M.D. MELB., B.S.

A YOUNG man nineteen years of age ran nine miles in a harriers' competition across rough country on a hot, north-wind day (a very dry, enervating wind for which Victoria is noted). The full course was ten miles, but he stopped running when a mile from home. He felt in fairly good form when he started, but had not been training hard, nor had he ever run the same distance before at racing speed. He perspired pretty freely during the run, and felt well till one mile and

a half from the finish, when he began to tire and had to stop. He had some whisky-and-water, a cold bath, and a rub down; he then walked about 300 yards to the railway station, feeling very well; he remembers no more after reaching the station. His friends, however, say that he was quiet in the train, and twenty minutes later walked down the street leaning on the arm of a friend. He said he felt hungry, but a minute afterwards fell to the ground unconscious. He was driven home, and I saw him at 6.30 P.M., one hour and a half after the finish of the race. He was then unconscious, and the body and limbs were quite cold. Both pupils were extremely contracted, and the conjunctivæ alternately absolutely senseless and slightly sensitive. The temperature in the rectum was 94° F., the pulse 50, irregular and weak, and the respiration 30, very shallow, and occasionally almost imperceptible. He was put in blankets on a stretcher before a blazing fire, hot bottles and bags were applied, and rubbing with brandy and oil carried on by relays of rubbers; ether was injected and hot brandy and beef-tea were given as an enema. After three hours of this treatment some response was shown by the conjunctivæ becoming more sensitive; the patient could now be roused to attempt to rise by deeply and very firmly rubbing over the heart; the pupils would then dilate widely and he would immediately relapse on discontinuing the rubbing. Dr. J. Williams was now (10 P.M.) called in, and as the patient had improved in condition it was decided to discontinue the rubbing and apply heat over the cardiac region. About 11 P.M. the patient opened his eyes and asked for a drink; he now seemed in an irritable condition, but half an hour afterwards he was able to recognise bystanders; he then had some broth and sank into a natural sleep. The pulse was 80, the temperature (rectal) 97°, and the respiration 25. There was a slight reaction the next day, the temperature rising to 100°. He lost weight for some months after the run, but has since regained it. All the organs of his body are healthy. Altogether sixty competitors started for this race, and I heard that two others suffered from "sunstroke" afterwards. On the morning of the race the patient had for breakfast fried fish, one cup of tea, and toast; for dinner underdone grilled steak, half a cupful of tea, and two half-slices of dry toast. In the morning he had a glass of water, and two tablespoonfuls before he started. The urine was not examined till the day after the race, when it was found to be normal.

South Yarra, Melbourne.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON HOSPITAL.

CASE OF DISEASE OF THE SPINAL CORD FOLLOWING INFLUENZA; REMARKS.

(Under the care of Dr. SANSOM.)

THIS example of the occasional effect of influenza on the spinal cord is of much interest, for although the affections of the nervous system which may follow that disease (*post* or *propter*) are numerous, they are not often so severe. As Dr. Gowers[1] has written: "But influenza may also induce disease of the spinal cord which is neither dubious nor slight. It has caused acute and severe myelitis, transverse and disseminated, as well as polio-myelitis in characteristic form. Myelitis is an occasional sequel of almost every one of the acute specific diseases, notably of typhoid fever, small-pox, and measles. The inflammation after influenza may involve the membranes of the cord as well as its substance, but the affection of the former has been partial. General spinal meningitis does not appear to follow influenza." We published in THE LANCET[2] the account of the post-mortem examination in a fatal case under the care of Dr. Mackay; in that case there was well-marked inflammatory softening of the cervical region of the cord, with adhesion of the pia mater, but the examination permitted was only a partial one. Dr. Foa[3] found hæmorrhagic lesions in the upper two-thirds of the dorsal and upper portions of the cervical regions, which he considered were caused by an occlusion of the vessels by an accumulation of micro-organisms in them. Accounts of the actual pathological condition of these spinal affections are not numerous. For the notes of this case we are indebted to Messrs. G. H. Cowen, house physician, and P. A. Chilcott and J. L. Sykes, clinical clerks.

A young woman aged twenty-two was admitted to hospital on Jan. 1st, 1894, complaining of difficulty in walking, weakness of the arms and legs, and impairment of the finer movements of the fingers. She was born and had lived in London all her life, and had had scarlet fever, measles, and whooping-cough when young. She never had rheumatism. The illness for which she was admitted began about the middle of October, 1893, with shooting pains in both legs from the knee to the ankle, and some stiffness in the right hand. About a week afterwards she was seized with a feverish attack, probably influenza, of an arthritic type, for she had pain in most of her joints, the right wrist and both ankles being swollen. Four or five weeks after this attack she began to have a sensation of numbness all over the body, but more marked on the right side. She then seemed to lose power in her legs, especially the right, and also in the hands and arms, so that she was unable to write or sew. These symptoms continued till her admission. Her condition on admission was that of a fairly well-nourished young woman, rather anæmic. The pulse and respiration were regular and quiet. The temperature was normal. Her thoracic and abdominal organs appeared to be perfectly normal. The urine was of an amber colour, acid, of sp. gr. 1022, and contained no albumen and no sugar, but there was a slight deposit of mucus. Her mental condition was good; she had no headache. Speech was unimpaired, and sight and hearing were good. The pupils were equal and reacted to light and accommodation; the ocular movements were normal. There was no affection of any cranial nerve. Ophthalmoscopically the fundi were natural, there being no trace of papillitis, old or recent. There was no affection of the sphincters, and the abdominal, thoracic, and spinal muscles seemed to be perfectly healthy. There was no tenderness or deformity of the spine. Both legs could be raised easily in bed, but she was unable to stand without support. Her walk was tottering, with slight tremor of the legs. The grasp of both hands seemed to be weak, the right perhaps rather weaker than the left; there was some tremor on movement. The finer movements of the hands were much impaired, so that she was unable to write or to pick up a pin. There was also much incoördination in the upper extremities. The interossei and thenar eminences of both hands were a little wasted, the right more marked than the left. The wasted muscles responded fairly well to the faradaic current, but to the galvanic the reactions were not well marked. There was no reaction of degeneration. No sensory loss could be made out by any kind of stimulation. Muscular sense was good. There was no tenderness of muscles or nerves, and no rigidity of muscles. With regard to reflexes, the superficial were normal. Wrist and elbow-jerks could be easily obtained; the knee-jerks were much exaggerated on both sides, and there was marked ankle and patellar clonus. Her hands and feet were usually cold and often covered with a clammy sweat. For about three weeks she remained in much the same condition.

On Jan. 20th it was noted that the knee-jerks were not quite so exaggerated; her walk was still weak and staggering. On Feb. 1st her walk was much better; she was able to walk up and down the ward with slight support. On this date Dr. Hughlings Jackson saw her and was inclined to attribute her condition to cervical pachymeningitis. On Feb. 5th she was able to get along by herself; the knee-jerks were still exaggerated, and there were ankle and patellar clonus on both sides. On the 17th she was able to walk fairly well by herself; the hands remained about the same. She had complained lately of a tingling sensation in the spine. On March 19th it was noted that the grip of the hands was much stronger, with more coördination of movement. She continued to improve, and on April 9th it was noted that the clonus had disappeared, though the knee-jerks were still

[1] THE LANCET, July 8th, 1893.
[2] THE LANCET, Aug. 1st, 1891.
[3] Annual of the Universal Medical Sciences.

excessive. Her hands were much improved: she was able to knit and do needlework. Her walk was practically normal. On April 15th she had still a peculiar feeling in the spine on bending her head forward. The knee-jerks were brisk; the hands were still cold, but the movements were much better. She was discharged on April 23rd. She could knit and sew fairly well; there was no tremor; coördination was much better, the knee-jerks were somewhat brisk, and there was no clonus.

Her treatment consisted of rest, bromide and iodide of potassium, and liquor arsenicalis. She also had massage.

Remarks by Dr. SANSOM.—It was at first thought that this case was one of rheumatic fever, but the course of events soon showed that it must be differentiated therefrom. The early signs were consistent with a neuritis affecting the legs from the knee to the ankle; this was soon followed by an arthritis which did not conform to the type of rheumatism. The arms showed much muscular enfeeblement, and also signs, which were yet more marked, of incoördination. A spot was attempted to be touched with much desultory movement of the muscles, and that attained was wide of the mark. The lower limbs showed less incoördinated movements, but greatly exaggerated deep reflexes, with patellar and ankle clonus and muscular enfeeblement. The course of the disease resembled that met with in some cases of influenza. In a former case under my care there was much retrojection of the head, with pain and fever; the type was that of cerebro-spinal meningitis, but the probability was strong that the disease was influenza. In this case rhythmic dyspnœa of Cheyne-Stokes character occurred, but recovery became complete. A great many cases have been recorded of diseases of the spinal cord and its membranes in association with, or in sequence to, influenza. It would seem probable from the cases that have been observed that the toxic agency of influenza may affect the medulla oblongata and the spinal cord in many areas. Moreover, it may be followed by multiple neuritis. In this case there was no evidence of implication of the vagus or of the upper cervical region of the cord, but the cord at the level of the brachial plexus did not escape, and there was evidence of invasion of both the antero-lateral and posterior columns.

Reviews and Notices of Books.

Les Tractions Rythmées de la Langue. Par J. V. LABORDE, Directeur des Travaux Physiologiques à la Faculté, &c. Paris: Félix Alcan. 1894.

ANY treatise on so important a subject as the resuscitation of the apparently dead, emanating from a responsible source and supported by a considerable body of medical opinion, demands careful examination. The history of advances in this particular department of medicine has been marked by an enthusiasm which will bear comparison with that evoked by any other beneficent scientific work. The circumstances in which such discoveries are put into practice are frequently more or less dramatic in character, and when success is achieved such terms as "resurrection" do service for recovery and the practitioner becomes a "saviour." This is perhaps more apt to be the case when such a discovery is first practised among our talented and enthusiastic neighbours in France. M. Laborde found that he frequently restored animals asphyxiated in his laboratory by seizing the tongue and exercising a regularly intermittent pull upon it. On a subsequent occasion he was accidentally summoned to assist in restoring suspended animation at the seaside in a man who had been submerged. Everything had been done that medical skill could suggest, but in vain. M. Laborde then employed rhythmical traction of the tongue, and the patient ultimately recovered. To one of M. Laborde's physiological experience a nervous mechanism for the production of this fortunate result readily suggested itself, and the prosecution of the idea throughout the book is characterised by a very pleasing enthusiasm, with which we altogether sympathise. His work has about it the *élan*, the dash, which has so frequently characterised the onslaught of the French soldier, and which never contemplates the possibility of failure. We have read M. Laborde's book carefully and cannot recall the record of a single failure. That such will in due time have to be recorded there is, unfortunately, too much reason to expect, and this, we remark, merely because experience has taught us that the enthusiasm surrounding the announcement of new methods becomes toned down as the true ratio of success in their employment becomes better known. The number of cases in which this method has been tried, and which are mentioned in this book, is not large up to the present, but they exhibit a normal rate of increase for a method which has been followed by gratifying results. The circumstances in which it has been so tried are sufficiently varied, and include asphyxia from submersion, sewer air, chloroform, tetanus, electric shock, and apparent stillbirth, and one case of foreign body in the larynx. The largest number is contributed by the asphyxia of newly-born children.

The method consists in separating the jaws of the patient and keeping them apart, in seizing the tongue with forceps, or the fingers enveloped in a handkerchief in the absence of the appropriate instrument, and in pulling the tongue forward at regular intervals and from twenty to twenty-five times a minute. In explanation of the *rationale* of his method M. Laborde publishes a diagram which exhibits the superior laryngeal, glosso-pharyngeal, and lingual nerves as the afferent channels to the respiratory centre in the medulla, and the phrenic nerves, the nerves to the thoracic muscles, and those to the facial muscles of respiration as the efferent channels for the motor actions. As is frequently the case in discussing the question of asphyxia the cardiac factor receives little attention. Marshall Hall even thought that increased vigour of the heart's action in the absence of spontaneous respiration was injurious. M. Laborde considers any effect upon the heart by his method to be altogether secondary to that produced upon the mechanism of respiration. To prove this he divided the phrenic nerves, and found that thereafter recovery was not possible by lingual traction. While, of course, agreeing with M. Laborde as to the important *rôle* of the diaphragm in the mechanism of respiration, we fail to be convinced by this experiment that stimulation of the nerves involved in traction may not have other effects having an important influence upon the ultimate resuscitation. We know from Kronecker that the mere act of deglutition very notably increases the pulse-rate, and we consider that further experiment will be necessary before we can quite accept M. Laborde's theory.

The relative value of this and other methods of restoring suspended animation will, no doubt, be established in time. Although the practice of this is not incompatible with the concurrent or alternate employment of other methods, M. Laborde appears to place implicit faith in it and rather to deprecate the use of other means lest this should not be carried out with sufficient persistency. While inclined to accept his suggestion as an adjuvant when possible to means which on the whole have proved very satisfactory, we think that few in this country will be prepared, without a much larger experience of its value, to discard the best forms of artificial respiration for it. We are far, however, from supposing that the means at present in use are in any sense complete or final, and we consider that M. Laborde has pointed out what may prove to be a real addition to our means for dealing with a condition of serious moment and frequent occurrence. In addition to the diagram we have referred to, the book contains good illustrations of the manner in which to practise the method on the adult and the newly born child.

The Sanitary Arrangement of Dwelling-Houses. By A. J. WALLIS-TAYLER, C.E. London: Crosby Lockwood and Son. 1894.

THIS book will no doubt be largely read, and will, we venture to think, be of considerable service to the public. The author has endeavoured to embody in plain and untechnical language, and as concisely as may be consistent with clear and proper classification, the information necessary for the guidance of the non-professional householder who desires to attain to such a knowledge of the subject as will enable him to use his own judgment to advantage in securing proper and effective sanitary arrangements in his dwelling. The book numbers 184 pages, by far the larger number of which are devoted to the draining of houses and the various fittings requisite for the purpose. In the chapter dealing with the walls and roofs of dwellings, we notice that the author omits any directions as to the thickness of walls. Residents in country districts will be somewhat disappointed in the book, as they will reasonably expect to find some definite directions about cesspools, which are still, all over the country, a great trial to householders; but this all-important subject to so many is dismissed in a couple of short paragraphs. The chapter on ventilation is, we think, rather meagre, many of the commonest and best ventilators are not mentioned. The book is well arranged, easily read, and for the most part devoid of technical terms, but there are a few of the latter which we think will puzzle the ordinary reader. We are afraid that, amid the great number of sanitary appliances recommended, some difficulty will be found in making selections. The illustrations are very good and numerous, and there is a sufficient index. In an appendix the provisions of some of the Public Health Acts bearing upon the sanitary arrangements of dwelling-houses, the regulations of the Metropolis Water Act of 1871, and the instructions to plumbers issued by the New River Company are set forth.

The Downfall of Lobengula: the Cause, History, and Effects of the Matabele War. By W. A. WILLS and L. T. COLLINGRIDGE. With contributions by Major P. W. FORBES, Major Sir JOHN WILLOUGHBY, Bart., Mr. H. RIDER HAGGARD, Mr. F. C. SELOUS, and Mr. P. B. S. WREY. London: The *African Review* Offices, Basinghall-street, E.C.

THIS work describes the cause, history, and effect of the Matabele war and gives the only authentic and official account of it which has been yet placed before the public. The leading facts and incidents connected with the campaign have, of course, been already published in the daily press. The biographical part of the book is not only well—indeed somewhat profusely—illustrated with photographs and portraits of all those who took a leading part in the events set forth, but—what is of much more importance as far as the clearness of description of the military features of the campaign is concerned—the maps are good and help to make it, from start to finish, quite intelligible to the reader. Major Forbes in his contribution to the history deals with his material in a plain, straightforward manner. Army men, and all who love to follow deeds of enterprise and daring, will, of course, be chiefly interested in this portion of the book, but members of the medical profession will naturally turn to the sketch which is afforded of Dr. L. S. Jameson, who played such a conspicuous and brilliant part in all that took place and who occupies a prominent position among the founders of the "Hinterland" empire. It is sagaciously remarked that no more striking illustration could be adduced of Mr. Cecil Rhodes' knowledge of men and accuracy of judgment in gauging their capabilities than his selection of Dr. L. S Jameson for the post of adminstrator of territories covering a larger area than France, Germany, Austria, and Italy combined. It may interest our readers to know that Dr. Jameson is a Scotchman and was born in Edinburgh in 1853. His family settled in London, and he himself, after distinguishing himself as a student and athlete, entered at University College Hospital and graduated in 1875 at the University of London, his career having been one of much distinction. Subsequently, owing to some failure of health, he was induced to go to Kimberley, where, in addition to achieving medical success, he had the good fortune to make the acquaintance of Mr. Cecil Rhodes. The rest need not be told. In addition to ability, tact, and a rare capacity for organisation, Dr. Jameson had mental "grip," enterprise, boldness of conception, and courage, with tact and urbanity—needful qualities in the "makers of the Empire." We can heartily commend this volume to all who are concerned in a subject which has excited a good deal of controversy and will always rank as one of the big and important affairs of the present age.

JOURNALS AND REVIEWS.

The Quarterly Journal of Microscopical Science. Edited by Professors LANKESTER, SEDGWICK, and WELDON. London: J. & A. Churchill. Vol. XXXVI., Part 3. July, 1894.—Nearly the whole of this part is occupied with a very complete monograph on Moniligaster Grandis, an earthworm from the Nilgiris, South India, by Alfred Gibbs Bourne, D.Sc.Lond., of Madras. The article is illustrated by fifty-nine figures and is carefully and creditably done. There are two other short articles, one of which is a review of Professor Spengel's monograph on Balanoglossus by E. W. McBride of Cambridge, with two plates, whilst the other consists of some notes on a Gregarine of the Earthworm, by Wm. C. Bosanquet of Oxford, with one plate.

The Manhattan Eye and Ear Hospital Reports. No. 1, January, 1894. New York: 103, Park-avenue.—This is the first number of a journal to which we wish success in the future. It contains several interesting communications. Thus Dr. Barnes takes up the list of cases published by Drs. Emerson, Pomeroy, and Webster, of Detachment of the Retina. The success of treatment by operation was not sufficient, in our opinion, to cause that proceeding to be generally adopted; improvement occurred in several cases that were not operated on. Dr. A. Edward Davis supplies a report of the cases of Purulent Ophthalmia, of which 6 occurred in infants and 16 in adults and children. The treatment adopted and the results were good. Dr. Hoover gives an account of six cases of Microtia; a case of Otitis Media is described by Dr. Thomas Harris; and Dr. Booth gives some c'inical notes of eight cases of Exophthalmic Goitre. The journal is well got up and well printed.

Annals of Ophthalmology and Otology. Edited by JAMES PLEASANT PARKER of Saint Louis. Vol. III., No. 3. July, 1894.—This part contains twelve original articles on Ophthalmic subjects and two or three on Otology, besides two on reports on recent advances in these subjects. Dr. Duane of New York discusses Dr. Gould's method of Treatment of Heterophoria by Prisms, a subject that is much more carefully investigated by American than by English surgeons. Dr. Theobald of Baltimore gives some typical cases of Subnormal Accommodative Power. Dr. H. Gradle of Chicago describes three cases of Paralysis of the Ocular Sympathetic Nerve Fibres. Dr. Bernstein of Baltimore gives his views as to where and how we should correct faulty equilibrium of the ocular muscles. Dr. Lewis H. Taylor of Wilkes-Barre describes a case of Melancholia following a mydriatic, questioning whether it is a cause or a coincidence. Dr. H. V. Würdemann of Milwaukee reports a case of Suppuration in the Antrum complicated with abscess of the lower lid and followed by septicæmia. Dr. S. O. Richey of Washington discusses the nature of the Halo that is a Subjective Symptom in Glaucoma.

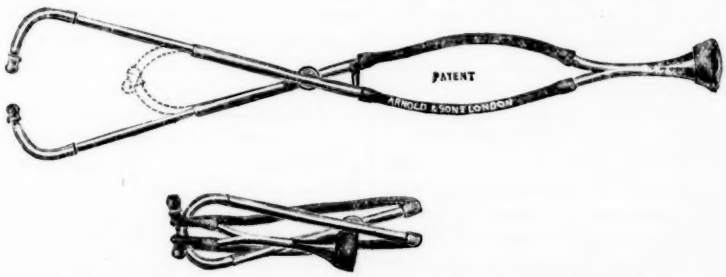
Dr. May of New York gives a case of Orbital Cellulitis following Tenotomy, the cause of which was not discoverable. Dr. Hale of Nashville treats of Muscular Asthenopia. Dr. Pinckard of Chicago and Dr. Green of Pueblo give cases. Dr. Wood of Chicago considers at some length the Toxic Amblyopias. Dr. Burnett of Philadelphia demonstrates that the stapes may remain mobile in Chronic Catarrh of the Ear, and Dr. Pierce of Chicago gives the treatment for Otitis Media Purulenta Chronica.

The Journal of Physiology. Edited by MICHAEL FOSTER, F.R.S., and J. N. LANGLEY, F.R.S. Vol. XVII., Nos. 1 and 2. August, 1894. London: C. J. Clay and Sons.—This part contains several articles of much interest. The first is by Dr. J. S. Risien Russell, of the Metropolitan Hospital, and is on Experimental Investigation of Eye Movements. The effects of stimulation of various parts of the cortex of the brain in monkeys are described. Dr. Starling, of Guy's Hospital, supplies an article on the Mode of Action of Lymphagogues. Messrs. Chittenden and Mendel describe their experiments on the Proteolysis of Crystallised Globulin. Mr. Kanthack and Mr. Hardy contribute a valuable article on the Morphology and Distribution of the Wandering Cells of Mammalia, in the course of which they classify several forms of this kind of cells and show that their properties differ to a considerable extent. Messrs. Bayliss and Starling have devoted themselves to an inquiry into the Origin from the Spinal Cord of the Vaso-constrictor Nerves of the Portal Vein. Dr. Hodge of Clark University, Mass., U.S.A., describes the Changes in Ganglion Cells from Birth to Senile Death as observed in Man and the Honey-bee. Lastly, Dr. Halliburton and Dr. T. G. Brodie discuss the Nucleo-albumens and Intra-vascular Coagulation.

New Inventions.

"RELIANCE" STETHOSCOPE.

THE accompanying illustration shows a very portable binaural stethoscope. It possesses the following advantages—viz., being telescopic it fits into a very small compass; the metal tubes are made oval to prevent turning round; the metal is the same colour throughout and does not corrode; the ear-pieces are made of india-rubber, and are therefore softer for the ears; and the chest-piece has an india-rubber air-pad cover. When folded it fits—and in a very small compass—into a leather case. Price, without case, 12*s.* 6*d.*; with case, 14*s.* The makers are Messrs. Arnold and Sons of West Smithfield, London.



ADJUSTABLE SURGICAL STOCKINGS.

ELASTIC stockings for the relief and support of varicose veins sometimes fall short of what is required of them. Uniform compression of the affected part of the limb is of the greatest importance, whether it has to be obtained by means of a bandage or by elastic pressure. This defect has been overcome in the adjustable stockings which have been forwarded to us by Mr. J. H. Haywood, Castle-gate, Nottingham. In cases of varix of the leg these articles will be found useful. There is no seam at the back or in the heel or foot to cause irritation. They can be tightened or loosened at the will of the wearer by the aid of laces in front. They also admit of being easily adjustable to the limb. We do not know whether a similar appliance has as yet been constructed for varix of the thigh. The texture, workmanship, and adjustability of the stocking render it most serviceable.

THE ANTIDIPHTHERITE.

IN times of plague in ancient Rome the physicians from Epidaurus who visited the sick made diligent application of the principles of antiseptics for preventing infection. The old Roman mask covered the whole head of the physician or nurse, and the beak-like projection through which respiration was carried on was stuffed with wool which had been dipped into tar. It was a most unseemly article of the medical man's apparel when visiting cases of infectious disease; but that was in some respects an advantage. It would not be touched or taken up by mistake and worn by someone else. The antidiphtherite is a modern adaptation of this mask. It consists of a metal mouth-piece and an arrangement for squeezing the nostrils. Instead of the beak in front, elastic tubes meet together behind the wearer at the bottom of a kind of bag or pouch and proceed upwards round his neck to reach the mouth-piece. The pouch contains a piece of sponge upon which some volatile disinfectant has to be poured before the antidiphtherite is ready for use. The proprietors of the article recommend it to medical men, nurses, sanitary officers, coroners and their juries, and "all those visiting friends suffering from infectious diseases." Herein lies the need of a caution. Everyone is advised to have his own apparatus. The Sanitas Company, Letchford-buildings, Bethnal-green, manufacture and supply the article.

NEWTON ABBOT WORKHOUSE.—The *Western Morning News* reports that the committee appointed by the Newton Abbot board of guardians to consider the report of the Local Government Board as to the administration of the workhouse have recommended that additional accommodation should be provided for the sick by the erection of a building containing accommodation for sixty patients, and that that portion of the letter of the Local Government Board which referred to the provision of an isolation hospital should be referred to the rural sanitary authority with a request that they would confer with the urban sanitary authority for Wolborough to see whether an arrangement such as has been recommended for the erection of a joint isolation hospital can be made.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 8, 1894.

THE privacy and dignity of the profession are threatened with a new danger, which cannot too soon be exposed. We refer to the interviewer. Against coarse advertising most medical men are on their guard; but when the tempter comes in such a questionable shape and with the air of high aims and interesting purposes the unwary victim is apt to find that he has supplied a reporter with a column of "copy" before he has well realised that he is to be the chief attraction in the next issue of an evening paper in the dull season, and that his photograph, his writings, his address, his hospital appointments—indeed, his general and his special fame—are to be writ large for the rush of an admiring public to have its lost noses restored or its extinguished eyes relumed. We have two serious instances before us in the shape of two newspapers, each having a column or more devoted to the wonders of our art. One is a London evening paper; the other a Melbourne journal. One is ecstatic over the operation of TAGLIACOZZI, which in one form or another has been practised for 300 years; the other over the ordinary feats of the ophthalmologist, as exemplified in a gentleman who, having won a fair reputation in Glasgow, thought he would like to conquer a new world in Australia and "give instruction to students and medical practitioners." The idea was perfectly legitimate, but the beginning of the application of it was most unfortunate, consisting in the formation of an ophthalmological clinic opened by his Excellency the Governor, quickly followed by a newspaper paragraph on the "skilful operator of *almost* world-wide reputation." The conscientious precision of that "almost" will be an excuse to our readers for the italics—it so exquisitely excludes the North Pole and a few outlying regions. Then in a few days comes the inevitable interviewer, with six headings to his gossip as follows, in six separate lines: "The Human Eye," "An Interesting Chat," "An Eminent Surgeon," "Cataract and its Cure," "Interesting Particulars," and "Opinion of the Gladstone Case." Our readers will imagine all the rest, including the portrait of the man of *almost* world-wide reputation, and the suggestion that money is no object, as the hero of the interviewer is "a scientific enthusiast who is said to have a soul above guineas."

The other instance of a member of the profession being a prey to the interviewer is unfortunately afforded in the case of a London evening paper and in the person of a well-known hospital surgeon, who might have been expected to be on his guard. On the contrary, with a "hatred of publicity" which the interviewer gives him credit for, and only desirous that the great institution for which he acts should have the honour, he seems to have fallen completely into the hands of his visitor and to have shown him his gallery of photographs and other materials, whence the statement that "perhaps no man in London had seen more of this class of work," and many other stimulating remarks in a long article headed "Marvels of Plastic Surgery: a Lesson in the Art of Nose-making." We do not believe that either Dr. WOLFE or Mr. BLOXAM would deliberately instigate such notices as these. On the other hand, it is obvious that they did not sufficiently resent the intrusion of the interviewer, but, wittingly or unwittingly, furnished him with material for morbid and sensational articles of a very objectionable nature. It is idle to blame the young and struggling practitioner who indulges in doubtful methods of advertising his existence and his skill if men of hospital standing suffer such use to be made of their names. We cannot withhold the expression of our strong disapproval of such conduct, although we are willing to believe that both these gentlemen have drifted—perhaps thoughtlessly—into a position which they must now regret.

THE tendency of the discussion upon pyrexia at the recent meeting of the British Medical Association was to discourage the routine administration of antipyretic drugs. Such a line of practice was discountenanced by Dr. HALE WHITE in his able address on various and cogent grounds—e.g., that moderate pyrexia is not demonstrably harmful; that antipyretic treatment is purely symptomatic; that it is possible that pyrexia may be one of "the defensive mechanisms" of the body; and that the lowering of the temperature may give a false sense of security, rob us of a valuable aid to diagnosis, and possibly impair the patient's immunity from subsequent attacks of his malady. On the other hand, the discussion made it abundantly evident that hyperpyrexia is on an altogether different footing, the mortality being put at 84 per cent., and that in this condition the patient's sole chance of safety lies in the prompt and vigorous application of external cold. The whole subject of the heat mechanisms of the body is one of absorbing interest, and, while much is known regarding it, considerable obscurity still hangs over some of the most fundamental points. To summarise Dr. HALE WHITE'S views very briefly, we may say that heat is produced chiefly in the muscles, and this production is controlled by the corpora striata; heat is lost chiefly from the skin, and this loss is controlled by the vasomotor and sweat centres of the central nervous system; the existence of thermogenetic centres in the cerebral cortex is probable, but not certain; and the heat mechanisms are much affected by the quality of the circulating blood. On the other hand, we are still ignorant of the real significance of many varieties of pyrexia. Is the pyrexia that accompanies the presence of toxines in the blood the effect, directly or reflexly, of irritation or paralysis of the thermic mechanisms, or may it be regarded as nature's effort to rid herself of noxious material—may it be a "defensive mechanism"? Or, take the common case of a slight chill, followed by moderate pyrexia. It is evident that theoretically this might be explained by a diminished loss of heat from the skin, or by a reflex effect upon the corpora striata, or by a blood state, or possibly in other ways. While these questions remain unsettled it is evident that antipyresis, as a definite line of treatment, rests upon a very insecure basis. It was well pointed out by Dr. HALE WHITE that some of the most striking effects of antipyretic drugs are now known to

be due, not to their influence over the thermic mechanisms, but to their specific action upon the cause of disease. Thus the influence of quinine upon ague long seemed to be a typical instance of successful antipyresis, but, thanks to the labours of LAVERAN, MARCHIAFAVA, BIGNAMI, and others, we now know that it acts as a direct poison to the plasmodium malariæ. It seems highly probable that the remarkable influence of the salicin compounds upon rheumatic pyrexia will, in the course of time, receive a similar explanation.

While doubt thus hangs over many theoretical questions associated with pyrexia, appeal must be made to practical clinical experience. We take it that there is no evidence that the systematic use of pure antipyretic remedies, such as antifebrin or phenacetin, reduces the mortality, say, in typhoid fever or pneumonia; on the other hand, there is a vast body of evidence that the systematic use of external cold has a material influence over the mortality in typhoid fever. In the debate at Bristol Dr. OSLER gave his emphatic opinion that the reduction thus effected was not less than 3 or 4 per cent. Whether the cold bath or cold sponging acts as an antipyretic, or by promoting the elimination of toxines, may be regarded as doubtful; but analogy is rather in favour of the latter view. The practical conclusion remains that in external cold we have an agent of real influence over the typhoid process. The influence of quinine over high temperature in typhoid fever has seemed to vary much in the experience of different observers. It is probable that this variation has been due to different methods of administering the drug. The evidence appears to be in favour of full doses of twenty, thirty, or forty grains given seven or eight hours before the period of maximum rise. Given in this way, decided benefit seems frequently to accrue.

The history of antipyresis in phthisis is rather a melancholy record. Again and again have remedies been received into favour only to sink into well-merited oblivion. There can be little doubt that the pyrexia of phthisis is toxic and due to the poison excreted by the bacilli. In such cases, to give antipyretic remedies which act by modifying the ordinary thermic mechanisms without exercising any antitoxic influence must, in most instances, be merely changing the hands of the clock, while the inner works remain unaffected. Antipyresis in phthisis must take the form either of nullifying the bacillary poison or of fortifying the organism against its effects. Creasote, guaiacol, iodoform, or carbolic acid may be tried with the former view; tonics, dietetic measures, and change of climate with the latter view. In neither case is the treatment correctly described as antipyretic.

Antipyretic treatment seems to achieve its principal triumphs in sunstroke and in some cases of hyperpyrexia; but in these cases cold water, both for promptness and efficiency, takes precedence of drugs.

THE oracle has spoken both inside and outside the Chamber of Representatives. The glove thrown down in earnest by the deputation which waited upon the Minister in charge of the Poor-law Department has been picked up in a different spirit, the apparent intention of which is to minimise the evils complained of, and restrict injuriously the public inquiry sought for. The result of this action has been a repetition of the old fable of the mountain in labour and the production of the traditional mouse; not an unusual outcome of attempts to deal half-heartedly with social difficulties even in this epoch of government by Commission.

Sir JOHN GORST, in his temperate statement of the causes which had led the deputation to solicit the aid of the State in ascertaining the present condition of the working of the Poor-laws, referred not merely to the treatment of the children of the State as revealed in cases under consideration, but to various other matters connected directly and indirectly with it in its widest sense, and asked for the appointment of a committee of inquiry into the whole matter. Those who followed him enlarged upon different branches of the same contention, widening considerably the field of matters demanding public consideration, and these matters Mr. SHAW-LEFEVRE, with singular infelicity, characterised as "very contentious." Even all the subjects touched on did not fully represent the state of present public feeling on the whole subject of Poor-law relief in its administrative and executive aspects. When public feeling is greatly excited, as it is now, in what are believed by large bodies of philanthropists and economists to be the injurious effects of much of the working of one of the most beneficent acts of legislation there must of necessity be considerable differences of opinion, based on personal experience, and it is surely absolutely erroneous to regard them as *ex necessitate rei* "contentious" even in a parliamentary sense.

The all-important part played by friction in mechanical science and practice has its congener in the moral world and in our social relations. It is in all such circumstances only by a thorough and searching examination of the various views entertained that truth can be established and error eliminated so far as these desirable results are practicable. Now what is the form of instruction to be submitted to the Committee for examination on the question of management of the district Poor-law schools of the metropolis? It is "to inquire into the existing system for the maintenance and education of children under the charge of managers of district schools and boards of guardians, and to advise as to any changes which may be deemed desirable." This instruction admits of more than one interpretation and is but the fringe of the garment with which it is intended to cover the proposed inquiry. It is not by any manipulation of administrative lâches, which is a mere side issue, that the relative and absolute value of the different systems advocated for the education and training of the class of children referred to can be determined. There are the large institutions known as district schools, the family system as represented by the cottage plan, and boarding out, all of which are in active operation at the present time. There is nothing whatever in the inquiry to be submitted to the Committee that was not within the statutory powers of the Local Government Board to deal with authoritatively. That systematic cruelty and any other form of malfeasance in the management of the district schools of the metropolis should long exist without detection is scarcely intelligible when all the agencies whose business it is to exercise a vigilant supervision over these institutions are considered.

This evil is not confined to the metropolitan schools, to which the inquiry is injudiciously restricted.

How differently a public demand for inquiry into the working of the Poor-law system generally was treated when the last great investigation was made. Circumstances which happily do not exist now led to the entire system being then thoroughly tested. Mr. VILLIERS, the president of the Poor-law Board of that time, proposed to the House of Commons in 1861 the appointment of a Select Committee to inquire into "the administration of the relief of the poor under the orders, rules, and regulations issued by the Poor-law Commissioners and the Poor-law Board pursuant to the provisions of the Poor-law Amendment Act, and into the operation of the laws relating to the relief of the poor." In the subsequent discussion there were very wide differences of opinion. He carried, however, his measure, in which he was most ably supported by the Marquis of SALISBURY, then Lord ROBERT CECIL. A committee of twenty-one members was appointed, among whom were Mr. VILLIERS and Lord ROBERT CECIL. They worked for four years, and their report was published in 1864. The public feeling then, as now, was "that in the Poor-law administration there must be more specialising — more consideration of the different kinds of treatment suitable to particular classes of paupers." This is exactly what is required now, and for which we again suggest most strongly a general inquiry into the whole question, and not a partial investigation into a scandal, as the basis of action of the Legislature.

Some of the statements made by the mouthpiece of the deputation do not seem to us to be altogether correct or calculated to aid the cause advocated. Scandals such as have recently happened in and out of the metropolis, serious as they are, are failures of administration merely, which the Local Government Board can and ought to be able to correct. They are not due to any particular system of management. The class of schools in which they occurred are not manufactories of ophthalmia, which, though most communicable when admitted into the school or workhouse, cannot originate there. There are exhaustive reports on this subject in the records of the Local Government Board, and the Board has made great efforts to stamp out infectious diseases.

Several other matters which demand inquiry—such as the training, duties, and responsibilities of inspectors, and the "fighting against the laws of nature," of which so much has been made—it would be premature to consider until the Committee meets and proclaims the course of investigation which its members intend to adopt. If they limit their action strictly to the narrow issues raised in the published instructions the inquiry will be of little or no value in determining the much greater and more important issues which are exercising the public mind at the present time.

WE have often commented on the relations of the medical officer of health to those of his professional brethren from whom he receives certificates notifying the existence of infectious diseases, and we regret that circumstances compel us to return to the subject; but a letter, which we publish in another page, adds to the list of complaints which we have received from time to time and shows that in many respects such complaints are still fully justified. The first point raised by the complainant is that the medical officer of health, on receiving a certificate notifying the existence of a case of scarlet fever, went into the house in question and saw the patient. Again and again it has been stated on the authority of the Local Government Board that a visit to or examination of the individual patient was neither contemplated nor authorised under the Act, and, in terms that are sufficiently strong, coming as they do from an official source, it has been added that such visits to patients are only justifiable under circumstances that happily are so rare that no medical officer of health has a right even to suspect them except on some very definite evidence. In answer to an inquiry made by a medical officer of health on this point the Local Government Board laid it down that personal examination of a patient for the purpose of testing the accuracy of the certificate "would usually be inexpedient" and should not be undertaken unless the medical officer of health "has reason to believe that the certifying medical practitioner is not acting in good faith." Fraud is happily rare, and fraud is almost the sole condition which justifies resort to such visits and examinations. It is true that there may be occasions when a medical officer of health may fear that a disease notified under such a name as "continued fever" may in reality be the beginning of typhus fever and may as such necessitate his knowing at once whether he has to advise his authority as to exceptional measures of precaution; but, apart from suspected fraud, the examination of a patient by a medical officer of health can only be justified owing either to some such emergency or because the medical officer of health is asked by the certifying practitioner for his counsel. And even when a medical officer of health feels it to be his duty to test the accuracy of a certificate he has been warned, in a number of letters from the Local Government Board, that he has absolutely "no right" to make an examination of the patient; that he can only do it with the consent of the patient or the patient's relations; and if he does it even under these circumstances he has been urged to remember that he has no claim, in virtue of his official status, to ignore the common courtesies of his profession, and that "the medical practitioner in charge of the case should always be communicated with, and his coöperation secured if possible." Again, the same Board wrote in 1890: "As between sanitary officers and medical attendants, the Board leave the interpretation....to be determined by the circumstances of the particular case, and *by the customs that usually govern the relations of medical practitioners to each other.*"

Unfortunately this element of professional courtesy is much too often ignored by medical officers of health, who, without having any such duty imposed upon them, and even without receiving any remuneration for so acting, sometimes take upon themselves to review the diagnoses of medical practitioners, and in some cases actually visit the patients, in order that they may the more successfully perform a duty which in no way attaches to the post of medical officer of health under the order of the central authority—a duty which in the vast majority of cases is altogether uncalled for. Several medical officers of health of recognised standing have done what they can to stay this meddling action—an action which, more than anything else, is calculated to

interfere with the value of notification as a system and to expedite the demand that no one in practice shall be allowed to hold the post of medical officer of health. In some respects such a result would be distinctly unfortunate, for it cannot be to the advantage of either preventive or curative medicine that public health work should be solely in the hands of those who have no means whatever for the clinical study of disease. One of the first letters ever written by the Local Government Board bearing on this subject stated that "it is of the utmost importance that he (the medical officer of health) should act in harmony with the medical attendants of the sick, so as to obtain from them the valuable assistance which they can afford to him in his work." This is the only proper attitude to adopt.

Annotations.

"Ne quid nimis."

MEDICAL BULLETINS.

THE letter of Mr. George Hanby De'Ath, declining to give details to a press representative of the illness of the Comte de Paris, is worthy of all praise. We get many good contributions to medical practice and medical science from our provincial brethren. In this lettter we get an excellent lesson in reference to the delicacies of the position of medical men in attendance on patients of rank—a lesson needed often by the lay press, and sometimes even by consultants of high standing. The details of the illness of a distinguished man or woman should rest safely in the confidence of his medical attendant. They are entirely unsuited to the pages of newspapers. No good purpose or good taste can be served by their publication. To supply such to the press is a breach of duty, cruel to the patient and bad for the public. Compliance with the request for such details generally arises from no worthy motive. We read Mr. De'Ath's letter with great satisfaction, which we feel sure will be shared by all the best organs of the press both in France and England. "They can surely afford," as he says, "to avoid sensation and act with sympathy, especially at a time when we doctors feel that little can be done, though we can all continue to admire and to respect the heroic courage of the Comte de Paris." It is easy, and in a certain way pleasant, to stop the importunity of the sensational reporter by giving him what he wants; but the medical man who attends public men should have higher conceptions of his duty and should have the courage of such conceptions. It is, of course, natural that the public should know, and should wish to know, the nature and probable issue of serious disease in public men. But these are not details; and if details are to be published they should be published in medical journals and with the severity of scientific accuracy.

DEATH AND PATENT MEDICINES.

SOME significant facts came to light in a recent investigation of the case of an unfortunate child afflicted with tuberculosis of the abdomen to whom a patent powder had been administered which, in the opinion of the medical man called in, Mr. J. W. Scott, was too strong for the child or for any child without medical advice. The powder was obtained from a grocer, who said he purchased the powders from Messrs. Read Bros. and Co. and sold a great many. Mr. Palmer, the laboratory manager of Messrs. Read, said they sold no less than 42,000 per year on the average. Dr. Lycett agreed with Mr. Scott that for the particular case the powder would be injurious, but not for a healthy child. But is any child healthy to whom powders are administered? And is it the part of a medical man to give a quasi-sanction to the use of powders sold by a grocer and made up wholesale by chemists as patent medicines? We think not, and regret that a medical man should have given occasion to the coroner to say that "doctors differ." It is at least satisfactory that the jury took the right view of the facts expressed in the following verdict: "That deceased died from tubercular disease of the mesenteric glands, accelerated by a powder containing elements of an unsafe character, and that such powder was administered without any knowledge of its nature." The jury also expressed an opinion that no blame was attached to the mother, and they likewise intimated that caution should be taken by persons in ministering to the ailments of their own children. It is dangerous to purchase and administer what may be called "patent medicines" without due advice from a medical practitioner. It is pitiful to think of all the marasmic and convulsive diseases of children and the suffering involved being aggravated by such unauthorised and unsuitable treatment. Nothing can be more likely to abate such an evil than for juries to pass such verdicts as the above. In one respect we think the verdict is open to criticism—it exonerates too easily the parent, who is bound to seek proper medical advice for sick children. In another case lately reported at Hoxton the medical man gave evidence that the death of an infant was due to convulsions produced by calomel contained in "Steadman's powders," which had been got at "Williams's Drug Store." It was said that a whole powder had been given contrary to the printed instructions on the back, the mother not being able to read. "Dr. Williams" was dead, but his name was still on the lamp outside, and the powders were sold by his daughter and her husband, who was a herbalist. The jury found death to be due to accidental circumstances, but it was recommended that such powders should not be sold to young children.

THE DIFFUSION OF SMALL-POX.

THE last fortnight of August witnessed a further spread of small-pox in the parish of Marylebone, but not in the old quarter of Portland-town, where the disease seems to have been quite got under, the portion now affected being the district of Lisson-grove. Up to the 24th the cases do not appear to have been numerous; but on that day there were 3 removals to hospital, followed by no fewer than 14 on the 25th. During the next five days other 29 cases were dealt with, but on the two closing days of last week no fresh attacks were recorded. Mr. Wynter Blyth attributes this renewed outburst entirely to the fact that for some three weeks there existed cases of small-pox, in a house in the street most affected, unknown to the authorities, many subsequent attacks being clearly traceable to these unrecorded cases. But for this circumstance, the Lisson-grove outbreak need never have had to be chronicled. The sanitary staff have been kept very busy by reason of this new manifestation, and much vaccination work has been done. Some 400 to 500 persons employed by one firm have been operated on, and the residents in some of the large model buildings have been similarly treated, the people looking to the officials to come to them, so apathetic are they even in the midst of disease, in striking contrast to the people of Portland-town. The importance of securing their vaccination will be seen when it is stated that in some of the buildings there are as many as 200 families. In London, apart from this parish, there has been some amount of small-pox in the two weeks in question, the cases newly arising having been 27 and 51 respectively, with 9 deaths in all. On Saturday last there were 151 patients

under treatment in the several institutions of the Metropolitan Asylums Board, and other 12 in the Highgate Small-pox Hospital, making 163, against 158 on the preceding Saturday. There has been some renewal of small-pox in Willesden, but not of any serious amount so far as we can learn, only some half-dozen cases coming to light last week. The authorities are using every effort to prevent the further spread of the disease. In the Midlands there has been a rise at Birmingham, 5 deaths and over 40 attacks being heard of in the fortnight, the disease also being recorded in Walsall, Wolverhampton, West Bromwich, and Willenhall, the cases in the latter place being reported as over 60 in the last four weeks of August. Further attacks are returned from places in the Midlands, but not of any serious account. Salford had but 2 cases, and Manchester only 4, whilst visiting has been resumed in the Charlton Workhouse, where the cases of small-pox have recently been *nil*. At Middlesbrough, where there have been not a few cases of late, as many as 100 children, who were due for vaccination in the last six months, have been reported as not vaccinated, and the officers have been instructed to take the steps needful to secure compliance with the law on the part of the defaulting parents. One death from small-pox, in the person of a tramp, occurred last week in Leeds.

WILL HYDROGEN YIELD?

Now that Professor Dewar has succeeded not merely in liquefying air but in isolating the liquid in tolerable quantities and in rendering it comparatively permanent as such by means of his vacuum jacketed vessel, there is hope that the only remaining gas, hydrogen, which has hitherto baffled all attempts to be liquefied in any tolerable quantity so that it could be preserved, may at last be made to succumb similarly to the combined influences of high pressure and low temperature. It is not difficult to secure the first condition, but that alone is not sufficient, since hydrogen cannot be liquefied, however great may be the pressure applied, until its temperature is reduced considerably below – 200°C. and probably at a distance of 70° of absolute zero. Its critical point, as it is called—that is, the temperature at which it passes from the gaseous to the liquid state—is somewhere about – 240°C. Working under the best possible conditions and using liquid air or nitrogen in the evaporating chamber, a temperature forty degrees above this is attainable, and if hydrogen is to be liquefied with the same success that Professor Dewar has liquefied nitrogen or air some vehicle must be found to produce a temperature some fifty degrees lower than boiling nitrogen. There is promise of this temperature being attained by employing a gaseous mixture consisting of nine-tenths nitrogen and one-tenth hydrogen. It is one thing, however, to be able to liquefy hydrogen, but quite another to succeed in collecting and preserving a quantity of the liquid for any practical purpose when it is obtained. As early as 1879 Pictet announced that he had succeeded in reducing hydrogen to the liquid state, which he concluded from the fact that the tension of the vapour of hydrogen in his experimental pressure tubes had attained a maximum, and again on opening the tap of the tube liquid hydrogen rushed out, in doing which a portion of the hydrogen, so he records, passed into the solid state, which did not fall in drops into a vessel placed under the outlet, but in pieces of solid matter which struck against the sides of the vessel "like shot" and immediately vapourised. Investigators in the same field have doubted whether Pictet actually obtained liquid hydrogen in the interior of his apparatus, unless it was at the moment of its outrush due to the fall in temperature following its sudden expansion; for even at – 200° C. hydrogen does not give a liquid, though under a pressure of several hundred atmospheres, and the temperature which Pictet calculated that he obtained was certainly not lower than – 140° C. There seems little doubt, however, that in the experiments of Caillètet and others, under these conditions and on expansion, a fog does form and a liquid state is attained, but the liquid does not separate. Professor Dewar has recently reached a higher stage than this, according to a recent article in the *Times*. Although "knowing the difficulties from having to deal in the liquid state with the accumulated small impurities in such large amounts of gas (to attain any result at all it is necessary to liquefy and expand more than one pound weight, or about 189 cubic feet), he will not declare that he has had pure liquid hydrogen in one of his vacuum vessels, although what the liquid can be except hydrogen it is impossible to say." It is to be hoped, however, that these laborious and manifestly costly experiments, which have such interesting ends in view as the liquefaction of the only gaseous element that remains to be overcome in this respect, and, subsequently, the attainment of absolute zero (– 273° C.), will not be stopped for the want of appliances and funds. Of one thing everyone must feel confident, and that is that the important investigation now being carried on in the laboratory of the Royal Institution will not fail for lack of skill and energy at the hands of Professor Dewar and his assistant, Mr. Lennox.

IS CYCLING HEALTHY?

IT must be most annoying to the enthusiasts of the cycling community to read the public comments that are just now being made on their favourite exercise. The press all through the country is full of the question, "Is Cycling Healthy?" and of the answers that spring from it. We assume that those who, for the moment, are so interested and eloquent on the subject, have not read the moderate observations we, from time to time, have made upon it; if they had, there would not be the same agitation or the same string of contradiction. This is not a case in which it can be said that in a multitude of counsellors there is safety. It is a case where a few individuals looking on the whole of the facts with professional and unbiased mind can do the most good that can be expected. It has been our business to endeavour to master the problem in this form, and in the honest attempt so to do we have sometimes offended the ardent cyclist, and sometimes also have run the risk of offending his ardent opponent. The facts are that the offence comes out of duty and must be borne by ourselves and those sober-minded people who wish to see both sides of a matter that has to it two sides at least. There are three sets of opinions amongst those who have ridden, or do ride, the cycle as to the effect which riding has on them individually. It is clear that there are some who cannot ride; from the first the exercise does not suit them; from the first it wearies them in mind as well as in body. They try, often under disadvantageous circumstances, overwearied with mental or bodily work, or suffering from some symptoms of disease, and not unnaturally these discover that what they supposed might be for their benefit is just the reverse; their nervous centres are shaken, their muscles are tired and strained, their heart is wearied; if they have gout or rheumatism the latent malady comes out; in a short time they show the bad effect of the exercise, and, not liking to say anything by halves, and not believing they could have done anything for which they were specially unfitted, they are severe in their criticism and condemn a general system on the ground of their own idiosyncrasy. On the other hand there are men and women of all ages who, entering the cycling fraternity, find a pleasure and a relief in it which are quite phenomenal, and, though it may not last, are sufficient to make them feel that they must hold by the new acquirement, patronise those who excel in it, praise its many and

obvious advantages, and by imperceptible means become on their part warm and perhaps able, if not altogether sincere, supporters of it. Lastly, there is a third set to whom cycling comes as a business. For the sake of saving time, or of carrying loads or other useful task, they train themselves into cycling labours and cycling habits—become, without offence, cycling animals—and find they can perform labours otherwise impossible with comparative immunity from injury. The evidence which men of science can alone accept lies between these three sources, the last probably affording the best; and the evidence is to the effect that, excluding those who are not fitted by constitution to ride at their own physical and mental expense, cycling is as safe as any other exercise if it be taken in a moderate and common-sense manner.

TWO CASES OF DEATH DURING THE ADMINISTRATION OF CHLOROFORM.

WE regret to again have to chronicle two of these sad catastrophes—one at Cardiff and the other at Halifax. The circumstances of the Halifax case are as follows. The patient, a female aged seventy, was put under chloroform in order to remove a small malignant growth from the left labium major. A similar operation had been performed some five months previously, also under chloroform, and with success. The second operation was entered upon at the patient's request, the attendant pain being so intense. An examination preparatory to the second administration showed the patient, who was in good health and spirits, to have a regular and strong heart beat and pulse, with absence of any abnormal sounds in the chest. She was somewhat corpulent, and the cheeks were a little puffy and lax. Chloroform was administered on a single layer of lint, a few drops at a time at short intervals. The left temporal artery was kept under constant observation, and all the ordinary precautions were taken. The patient took the vapour well for about ten or twelve minutes, the breathing and heart's action remaining regular and unembarrassed, and the pupils acting to light and touch. Increase in rapidity of breathing and some movements of the limbs indicated the stage of excitement, which lasted about a minute and a half. Unconsciousness then followed, the pulse and breathing still remaining good and the pupils contracted and insensitive. The operation was then commenced, and when, upon the primary incision round the growth being completed, the patient suddenly stopped breathing the pulse at the wrist disappeared, the pupils rapidly dilated, and the face became cyanosed. The operation was at once stopped, the tongue drawn out, and artificial respiration resorted to. The heart sounds were perceptible for some five minutes after the breathing had stopped. Nitrite of amyl, hot and cold water, and hypodermic injection of ether and brandy were resorted to, but all in vain. Artificial respiration was kept up for about an hour, but there was no reappearance of the pulse or lessening of cyanosis. Death, it appeared, resulted from paralysis of the respiratory centre. The reasons for giving chloroform in preference to ether were the successful administration on the previous occasion, the fact that she had suffered from a little bronchitis in winter times, and the desirability of avoiding vomiting after the operation. Duncan and Flockhart's chloroform, sp. gr. 1497, was used to the total amount of three drachms and a half to four drachms. The patient had been properly prepared for the operation. No necropsy was made, but an inquest was held, and a verdict in accordance with medical evidence was returned. The case at the Cardiff Infirmary has, it will be seen, points in common with the Halifax case, and certainly no efforts towards resuscitation were spared. The patient in this case was a female aged twenty-eight, married, childless, and was admitted to the Infirmary on July 25th, suffering from gastric ulcer. Certain symptoms rendered it desirable that a vaginal examination should be made under an anæsthetic, and on Aug. 24th chloroform was administered on a single thickness of lint from a drop bottle. Not half a drachm had been given when the patient, who had passed through a short struggling stage, became pallid, respiration took place by short gasps, and the pupils became dilated, although but a second or two previously the patient had been moving. The administration was immediately discontinued, the head was lowered, the foot of the bed was raised, and the tongue was drawn forward. The heart was at once listened to, and its sounds could not be heard. Natural breathing ceasing, artificial respiration was commenced. Brandy and ether were injected under the skin, and an enema of brandy was given; flannels wrung out of very hot water were applied over the heart, and hot bottles to the extremities. The patient was inverted. The interrupted current was used with both poles over the heart and also with one pole over the diaphragm and the other over the phrenic nerve. Two aneurysm pins were fixed to the battery terminals and passed into the heart itself through the chest wall. Artificial respiration was kept up for one hour and a quarter, but all efforts to restore animation failed. No steps had been taken to commence the examination of the patient, who had not been disturbed in bed. The heart had been several times examined previously, and no abnormality, functional or organic, was detected. A limited post-mortem examination was made, and the heart cavities were found to be empty and the walls somewhat thin and flabby, but the muscle was of a good colour, and there was no excess of fat. An inquest was held on Aug. 25th, and a verdict of death from failure of the heart's action under chloroform was returned.

THE CREMATION OF INFECTED AIR.

SOME twelve years ago Professor Burdon Sanderson, in his evidence before the Royal Commission upon Small-pox and Fever Hospitals, suggested that the risk of aerial convection of disease might be met by disinfecting the air passing from infectious wards. He proposed that the foul air should be drawn along definite channels and sterilised by exposure to heat. In view of the steadily increasing body of evidence which goes to show that, as regards small-pox at all events, the danger is a real and pressing one, attempts have been made of late to carry this suggestion into practice, and notably in the hospitals recently erected by the Nottingham, Barnsley, and Bradford Corporations. How far these attempts have been successful may be learned from a memorandum just issued by the Local Government Board, in which Dr. Barry recounts the results of a series of careful experiments made at each of the institutions in question. In each case the architect had sought by means of furnaces in the course of the outlet shaft to secure the double object of artificial ventilation by extraction and the "cremation" of the outgoing air. At Barnsley and Nottingham gas-furnaces were employed for the purpose, and air was admitted to the wards by windows and ordinary inlet-ventilators, while at Bradford extraction was effected by a powerful furnace to which the outlet flues were conducted, and special inlet flues were provided through which alone air was permitted to enter. In the two former places the results were in no sense satisfactory. The extraction was insufficient to prevent occasional outflow of air from the ward through openings meant to serve as inlets only, and the air, after passing the furnaces, was found to be by no means sterile, but, on the contrary, to contain microbes capable of cultivation on agar-gelatine. The draught, too, tended to extinguish the gas jets, and at the Nottingham Hospital bits of cotton-wool and tissue paper were carried through intact. At Bradford, again, the

sterilisation proved to be incomplete, and, although the arrangement of inlets was such as to prevent any reversal of the current in them and leakage of infected air, Dr. Barry very properly takes exception to the precarious character of a system of ventilation which is dependent solely and absolutely upon uninterrupted efficiency of stoking. It is possible that better results may be obtained by the aid of propulsion, or mechanically forcing fresh air into the wards, an excellent example of which—at the Victoria Infirmary, Glasgow—is described in the appendix to the Memorandum; but it seems clear that up to the present time the attempts based upon extraction alone have been attended with such a very modified degree of success as to count as failures in practice.

GRAVES'S DISEASE AND PERIPHERAL NEURITIS.

IN the last number of *Brain* Mr. Arthur Maude briefly considers this subject, which he first brought forward in a communication to the Medical Society last year. The symptoms on which he grounds the hypothesis that peripheral neuritis is present in Graves's disease are (1) the frequent occurrence of "cramp," to which Dr. Hector Mackenzie first directed attention; (2) hyperæsthesia, which, he says, is nearly always present; (3) symmetrical paresis of the legs; (4) the altered condition of the knee-jerks, which are frequently diminished; (5) varying degrees of numbness, tingling, and pains; and (6) localised œdema, which occasionally occurs in this disease. To account for the neuritis, Mr. Maude supposes that some toxic substance is produced either from the excessive disturbance of the thyroid gland or from alterations in the alimentary canal, and that this toxic substance acts upon the peripheral nerves and gives rise to the symptoms which, he thinks, at least suggest the presence of actual changes in the nerves themselves. Of course it would be idle to exhaustively discuss this hypothesis, which will no doubt at an early date be put to a crucial test by examining the nerves by modern methods; but we would venture to doubt the correctness of the view which Mr. Maude supports.

THE PORTLAND-TOWN SMALL-POX OUTBREAK.

MR. WYNTER BLYTH has presented a report to the vestry of Marylebone on the prevalence of small-pox which recently affected the region of Portland-town, so far as the month of July is concerned. We assume that the report is only preliminary to a more exhaustive account of the epidemic when the medical officer of health shall have gathered all the facts together; but even so the report is full of interest as showing how the malady was restricted in the area of its operations. There is the more reason for congratulation on this score when we remember that the initial case remained in a shop in a crowded locality for fifteen days, and that of 149 attacks known of by Aug. 8th no less than 139 probably derived their infection from that one case. Mr. Wynter Blyth remarks on the powerlessness of sanitary authorities in the face of a case like this first one, where the patient is in circumstances which are a menace to the public health, but is too ill to be moved to hospital; and he moreover deplores the lack of any power enabling health bodies to offer compensation for trade losses where, as in this instance, the closing of the shop premises might have been productive of much saving of suffering. But he at the same time admits the impracticability of carrying out any scheme of compensation in an equitable manner. With incomplete data as to vaccination in its relation to small-pox, Mr. Wynter Blyth gives only such figures as he himself possesses. These, however, go to show that vaccination has had an appreciable effect on the character of the disease, 4 of the deaths registered up to Aug. 10th having occurred in 65 vaccinated persons (6·1 per cent.), and 6 in 36 unvaccinated persons (16·7 per cent.). The 4 deaths among the vaccinated were all in persons who had been vaccinated at least twenty years. Of the unvaccinated sufferers 21 (58 per cent.) were under seven years of age. The large majority of vaccinated patients were over twenty-one years of age. It will be interesting when the full facts as to the number and character of scars, and the other circumstances in connexion with vaccination and revaccination come to be known to see what has been the actual state of affairs in regard to the influence of these prophylactics. One point to which Mr. Wynter Blyth refers is that in his opinion there is not much danger of infection in the pre-eruptive stages of small-pox. The great lesson of the epidemic to his mind is that, with a combination of the efforts put forth, the disease was kept from spreading over the metropolis, these efforts being the hearty coöperation of the Metropolitan Asylums Board, the speedy removal of patients to hospital, the measures of disinfection practised, the indefatigable labours of the sanitary staff, the hand-in-hand action of the sanitary and Poor-law authorities, and last, but not by any means least, vaccination, and especially revaccination.

PRETENDING TO BE A MEDICAL MAN.

THE feeling of grievance in the poor who rush to one who poses as a medical practitioner in moments of emergency and afterwards, perhaps after the death of the patient, find that he is not such, is finding expression, and will have to be dealt with. A case has just been investigated by Dr. Wynn Westcott, where the people sent for "Dr. Davis, 190, Green-street," thinking he was a properly qualified medical man. It transpired that he had been the unqualified assistant of a practitioner, who, it was stated, had been removed from the register for giving a certificate of death in a case attended by Davis. It appeared that there is now no name on the house. According to one witness Davis practises largely. The jury expressed great dissatisfaction with Davis's position. The coroner explained that it was not touched by the present state of the law. The foreman said that something ought to be done to stop this sort of thing, and wished the coroner to make the matter known to the authorities—which we trust he will do. His great experience must have brought to his knowledge many such cases; and a communication from him to the Home Secretary, the Registrar-General, and the General Medical Council would do much good. If the principle of the Apothecaries Act were made easily applicable, as we have advocated, such cases would be met; and unqualified men, acting as medical men, would *ipso facto* make themselves liable to be punished.

THE ADMINISTRATION OF POISONOUS REMEDIES.

THE unfortunate accident which occurred recently in Guy's Hospital and by which a patient received an overdose of chloral must have resulted in the suggestion of more than one preventive method for future use. Even the most thorough course of instruction cannot, of course, guarantee immunity from the risk of accident. Nevertheless, more might be done than is now usual to so educate nurses as to render the commission of mistakes in dose-giving even more extremely improbable than they are at present. There is no reason why an education in elementary pharmacy, sufficient to ensure their acquaintance with the doses and general actions of all the more usual remedies, and especially of poisons, should not form part of the nurse's curriculum. Ready remedies available as first aids in cases of poisoning would also naturally be included. Thus a nurse would be furnished with a double check upon her liability to accidental error—namely, with that supplied by accurate prescription and by that which would be added by her own knowledge of correct and customary dosage. No

one would lose, but all would gain, by her increased intelligence. Nurses are occasionally employed as dispensers. Their efficiency in this department of work would be much enhanced by such an addition to their training as that we have suggested. Another unhappy incident reminds us that, in spite of multiplied warning, the folly of self-treatment continues to exercise amongst us a wide and occasionally disastrous attraction. One of its latest victims was a retired surgeon, who died a fortnight ago from the effects of chlorodyne, which he had long been in the habit of taking for cough. It is not known that he exceeded his usual quantity on the present occasion. He had himself grown weaker, however, and had probably arrived at that stage in chest disease at which any kind of sedative, and especially an opiate, must be used with great caution, if at all. This case repeats a long familiar warning. We have in it a fresh illustration of the fact that for safe and successful treatment, not only an acquaintance with drugs but a knowledge of disease is needful. The former is no common property, the latter unattainable by merely subjective diagnosis even in the case of medical men. It is remarkable that chlorodyne, among the remedies employed by amateurs, enjoys an undesirably mischievous reputation. This fact alone should suffice to find a place for it and other opiate nostrums in the schedule of poisons unsaleable but by prescription.

ALLEGED DEATH FROM VACCINATION.

ON Sept. 1st the adjourned inquiry into the cause of death of Ethel May Everest was held before Dr. C. Luxmoore Drew at the Fulham mortuary. The infant was vaccinated when seven days old by Mr. Steer, medical superintendent of the Fulham Infirmary. Nothing unusual occurred for some time after the vaccination, which ran a normal course. At a later period a "rash" developed on the arms, legs, and head, and for this the child was taken to the Jubilee Hospital, where it was attended by Dr. Benham, on Aug. 17th. On Aug. 20th it became worse, and Mr. Saltmarsh was consulted. There was then difficulty in breathing and considerable swelling of the neck on each side near the angles of the jaw. Death occurred on the 21st. At the preliminary investigation Mr. Saltmarsh gave it as his opinion that the cause of the fatal issue was blood poisoning. Considering the gravity of the case—for it was alleged that the death was connected with the vaccination—Dr. Drew adjourned the inquiry and ordered a post-mortem examination to be made. This was conducted by Mr. Pepper. The rash before referred to was eczema impetigo of the scalp. No eruption was detected on the arms and legs. The vaccination scar was perfectly healthy, and the axillary glands on the same side were normal. There was no trace of pyæmia in any part of the body. Careful attention was given to the joints and meninges of the brain, as these parts are commonly involved in pyæmia in young children, but they were free from any trace of inflammation. The mucous membrane of the pharynx was somewhat congested, and the associated lymphatic glands were greatly enlarged and much congested. There was no pulmonary disease to account for the difficulty in breathing observed by Mr. Saltmarsh. Mr. Pepper's evidence was to the effect that neither the vaccination nor the "rash" had any part in causing the death, which was attributed to toxæmia consequent on some acute affection, probably scarlet fever or diphtheria. It was true that no specific lesion was demonstrated in the throat, but the congestion of the part, taken with the manifest enlargement of the cervical glands and the absence of other recognisable cause of comparatively sudden fatal illness, warranted the conclusion arrived at. Had it been necessary, there would have been no difficulty in tracing the source of the humanised lymph employed in the vaccination, but the facts obtained by the post-mortem examination rendered further inquiry needless. The jury were unanimously of opinion that the vaccination had nothing to do with causing the death. The above case shows the advisability—nay, the necessity—of a necropsy when the ultimate cause of death is obscure. Mr. Saltmarsh was quite correct in the opinion he formed as to the blood poisoning, but the all-important question to be decided was whether the vaccination and the fatal toxæmia were in simple or causative sequence. This was uncontrovertibly answered in terms of the later medical evidence and by the verdict of the jury.

A QUASI-SCIENTIFIC PUNCTILIO.

MORBID extravagancies of thought were not peculiar to the Middle Ages. They have been more than sufficiently evident in our own century and generation. Inspired by a simpleton's reading of some text of Scripture, or of science, or perhaps by a mere whim of sentiment, they have led men and women—otherwise, it might be, apparently rational enough—to extremes of error and folly. Were it not for their occasionally mischievous results we need hardly treat such excesses otherwise than with pity and judicious neglect. Certainly no severer method seems to be either deserved or needful in dealing with a social absurdity which is reported to have lately made its appearance in Russia. The inhabitants of Baku, on the Caspian Sea, it seems, understand that cholera is spread by means of bacilli. A number of the citizens accordingly, determined to better their instruction and to avoid every possible access of contagion, have abjured even the practice of hand-shaking lest the grasp of friendship should imprison a germ. It is not often that the worship of scientific truth exhibits itself in a form so literal and so ostentatious. It is in this case the more remarkable since among the Russian people sanitary measures have hitherto been distinguished by their virtual abeyance. To retain the hand in unsocial reserve is not to cleanse it, and cleanliness it is, whether of the person, of houses, drains, or water-supply, which constitutes the best safeguard against the Asiatic scourge. It is a mere mockery to sport with punctilios of social custom while these graver matters are overlooked.

THE SECRETORY NERVES OF THE LACRYMAL GLAND.

A MEMOIR with this title appears in the number of the *Archives d'Ophthalmologie* for July, 1894, from the pen of Dr. Tepliachine, of Kasan in Russia, in which it is stated that as far back as 1860 Czermak observed that excitation of the trunk of the fifth pair of nerves in rabbits caused increased secretion of the tears. Herzenstein showed that stimulation of the lacrymal nerve produced the same effect, whilst division of this nerve was followed by continuous and free discharge of tears, which he regarded as a paralytic secretion. Wolferz, whilst supporting these observations, added that stimulation of the cervical sympathetic caused increased lacrymation, whether practised before or after section of the lacrymal nerves. Up to this period observers were fairly in accord as to the innervation of the gland, but Reich now put forward his views, which were that moderate stimulation of the fifth nerve did not produce much, if any, increase of secretion. It was only when the excitation was very powerful and the muscles of the eye began to be affected that the secretion really appeared to increase. He was disposed to attribute the increase to reflex action through other nerves—such as the facial and the glosso-pharyngeal—with which the sympathetic nerve communicates through the greater and lesser petrosa nerves. The subject has been taken up by Dr. Tepliachine

at the instance of M. Panas. He found that intra-cranial stimulation of the facial and glosso-pharyngeal nerves was followed by entirely negative results, though great difficulties were met with in the frequent and abundant hæmorrhages that were unavoidably caused in exposing the nerves. The conclusions at which he arrived are briefly as follows. The view that the facial nerve is the secretory nerve of the lacrymal gland is not supported by facts. The secretory filaments which the lacrymal and the subcutaneous malar (a nerve that, when stimulated, causes increased lacrymation, especially in cats) contain run in their intra-cranial course in the trunk of the fifth nerve, and they probably participate in causing the increased flow of tears which is provoked in a reflex mode and also under the influence of psychical emotions. The normal and continuous secretion of tears cannot be regarded as purely the result of a reflex action proceeding from the excitation of the anterior part of the globe of the eye, and does not depend on the secretory filaments of the lacrymal and of the subcutaneous malar branch. It is more correct to consider the cervical sympathetic nerve as the secretory nerve of the lacrymal gland, under the influence of which the normal and continuous secretion of tears takes place. The facts relative to the paralytic secretion of tears and their variations in quality obtained by the stimulation of the lacrymal nerve and of the cervical sympathetic are still undetermined and require investigation.

"RUNNING AMUCK."

THE Malay "amok," as a peculiar, almost unique, form of racial psychosis, has attracted attention for many years past. In a recent number of the *Neurologisches Centralblatt* Dr. Rasch has a short article on the subject which, while it offers nothing fresh for consideration, directs attention to several interesting points in connexion with the peculiar form of mental disturbance to which the name is applied. "Amok" only occurs in the Malay peninsula, and it is a condition which only affects the Malay race. Macassar, as Wallace points out, is the chief place of its occurrence, and one or two cases a month is not an unusual number. Its occurrence is usually preceded by some kind of emotional disturbance, and in some instances it seems to be connected with the influence of opium. The subject of it seizes his "kriss" and rushes into the street, striking at, sometimes killing, everyone he meets, man or woman, friend or foe, and the paroxysm not infrequently ends with suicide or at least the infliction of wounds by the patient on himself. The etiology of the condition is, as we have hinted, obscure. It may be, as Wallace suggests, that it is really a resort to what appears to the savage to be a kind of honourable suicide on the part of a man who, for some reason, is plunged in sorrow or dejection, thinks himself wronged by society, or to whom on account of misfortunes life has come to be a burden. But it is strange that such a condition, which must be regarded as a transitory mania, should be confined to one particular race. The curious resemblance in some particulars of this condition to what is known as "procursive epilepsy" cannot fail to be noted by anyone who has observed the latter condition.

THE HEALTH OF HEALTH RESORTS.

THE sanitary authorities of health resorts are vieing with one another in publishing favourable reports of their small mortalities and in dispersing them amongst members of the medical profession. One of the latest instances is that of Hastings, which in its report of the quarter ending June gives an account of 159 deaths registered in the quarter—that is 14 deaths less than in the same period of 1893, 41 less than in 1892, and 66 less than in 1891. The following are the principal deaths from certain significant groups of diseases, with the proportions to 1000 of the population at all ages:—Division I.: Principal zymotic diseases, total 18, or 1·28 per 1000; pulmonary diseases, total 23, or 1·64 per 1000; principal tuberculous diseases, total 25, or 1·79 per 1000. Division II. (infants under one year): Wasting diseases, total 4, or 14·86 to 1000 births; convulsive diseases, total 5, or 18·58 to 1000 births. But for 9 deaths from whooping-cough, the zymotic mortality would have been much less. Small-pox, which had gained an entrance into the town early in the year from Oldham, is entirely stamped out. The town has one happy immunity—that from diphtheria, there having been no notification of it for seven clear weeks. Scarlet fever, which had been prevalent, is now down to its normal proportions; there was no death from it in the quarter. There has only been one death from typhoid fever in nine months. It is announced that works are in progress for a constant supply of deep well water from the Brede Valley, about seven miles from Hastings. We congratulate Hastings on this report. It is gratifying to see health resorts able to publish reports justifying their existence. It will be still more creditable when they publish a little more freely the facts as to their zymotic and tuberculous disease and enable visitors to know the houses which may be a source of danger. There is a want of information on this point which is not reasonable. Individual housekeepers in such places should be indemnified by a public arrangement, or otherwise, for losses incurred in maintaining the health reputation of the particular town.

A WIFE-BEATER'S EUPHEMISM.

THE resources of language could not have been less severely taxed than they were in the case of a man who was convicted last week at Highgate of assaulting his wife. There had been, he admitted, "a little disturbance." With more freedom of speech than this laconic savage allowed himself, we may mention that he had beaten, kicked, and tried to throttle his wife, had locked her out for a whole night, and had threatened her life and that of her children. After this it is not surprising that his very simple admission did not satisfy the presiding magistrate, who very properly decided that he should be remanded in custody to gain if, possible, a better understanding of the meaning of words and of his duties as a resident in a civilised community. The study of words which this incident suggests is not a fruitless one even from a medical point of view. Anger, we are told, is a brief madness, and this in a sense is true. It is certain, at all events, that the term "passion" when used in this connexion denotes a state of mental suffering which cannot be either natural or healthy. It by no means follows, however, that the question of personal responsibility for acts committed while in anger is thus disposed of. The mind at such times is not captured, but rather given away. It is quite exceptional to find that the inward reproach of conscience is unheard or misunderstood, and as a rule the victim of his angry impulse is neither irresponsible nor insane. If he be so, in any case collateral signs will prove this. In their absence we may conclude that the circle of his mental disturbance, eccentric though it be, falls within the limits of sanity and that he cannot be excused on the plea of illness.

THE EJECTMENT OF A FEVER PATIENT.

A CASE which seems to us to involve points of some interest was heard recently at North London before Mr. Lane, Q.C. The landlord of a certain house applied for an ejectment order against a lodger, who, in defence, appears to have produced a medical certificate stating that his wife was suffering from scarlet fever and could not be removed with safety. In answer to this Mr. Lane is reported to have expressed the opinion that the woman "ought to be at once removed to hospital and the place disinfected." The

landlord's notices were, Mr. Lane remarked, quite regular, and the lodgers would have to vacate the dwelling. He advised the landlord to proceed at once to the sanitary authority and inform them concerning the medical certificate. It is difficult to understand how this recommendation could facilitate matters since the case had, in all probability, already been notified to the medical officer of health in the usual way, as also, perhaps, the additional fact that in the opinion of the medical attendant the patient was not able to bear removal. The case is certainly a very complicated one, but if it has been correctly reported, and the medical certificate expressly stated that the patient was too ill to be removed, it is obvious that anyone effecting the removal would incur a very grave moral, if not legal, responsibility. On all other grounds, except the personal safety of the patient, her removal to hospital was in every way to be desired, but we fail to see how this could be done in face of the statement contained in the medical certificate. Possibly a consultation between the medical officer of health of the district and the medical attendant brought about a satisfactory issue, and, if the patient was unable to be removed, temporary shelter was no doubt obtained for the other inmates of the house.

LUNACY RAMPANT.

THE current issue of the *Electrical Review* contains a vigorously written article dealing, under the above title, with the electrical researches of Dr. Luys, who has been stated by more than one of our popular papers to have recently concluded some very wonderful experiments, the latest of which has demonstrated the fact that cerebral activity can be transferred to a crown of magnetised iron, in which the activity can be maintained and subsequently passed on to a second person. Incredible as this may seem, Dr. Luys, we are informed, has proved it. Knowing the value of facts as against vague statements, an instance is given where this transference of cerebral activity actually occurred. A lady suffering from melancholia with a mania for self-destruction, having worn the crown of magnetised iron, shed her symptoms and was allowed to go free and sane. Later a hysteric and lethargic man coming for treatment was crowned with the same circle of magic and magnetised iron, with the result that he immediately assumed the personality of the previous patient. These wonderful cases would appear to have been gravely reported, and if we were able to believe them we should suggest that inasmuch as it is at least better to be a hysteric and lethargic male than a melancholic and suicidal female, the second subject of Dr. Luys's experiment has a definite ground for complaint rather than for gratitude. To the comments of the *Electrical Review* upon this matter we have nothing to add. "The vendors of bogus *galvanic* appliances," says that paper, "have had a bad time recently in this country, and it certainly is not the fault of the technical press if the scotched snake still retains signs of vitality. But this magnetic transference of lunacy nonsense should be checked at once and its real character made clear, or magnetism will be answerable in the hands of the charlatan for more mischief-working than the mild magnetic current."

THE LAW'S DELAY.

MR. HENRY LIONEL SMITH, M.R.C.P., L.R.C.S. Irel., was appointed on June 8th, 1887, "to act as medical officer at Albany during the temporary absence of" his predecessor, and on Sept. 6th, 1888, the Colonial Secretary wrote to the respondent, formally intimating that his term of office under Government would cease at the end of the year. This was postponed to allow an appeal to the Secretary of State, but came into effect on March 8th, 1889. The legal technicalities which it appears constantly overwhelm the litigants who contravert the action of Colonial authorities is again prominently illustrated by this case. A petition of right was presented against the Crown, in which a claim for damages was put in. Eleven days afterwards the Governor of the district (Western Australia) decided that the petition affected the Royal prerogative, and accordingly referred it to the Secretary of State, and it obtained his approval. After eighteen months' further legal delay the Governor referred the petition, with the advice of the Executive Council, to the Supreme Court for trial. At this trial the jury disagreed and were discharged, notwithstanding that the judge ordered the jury to find a "verdict for the appellant." In the following year a second Supreme Court trial took place before the Chief Justice of the colony and a special jury. This time the jury held that the plaintiff was led to believe that he would hold the office during good behaviour so long as the office existed, that reasonable notice had not been given, and that the plaintiff had been dismissed without reasonable cause, and assessed damages at £200. This, however, did not end the matter. Notices of motion to have the judgment reversed were argued before a full court, consisting of the judges who had formerly tried the case and who had previously held different opinions upon it. Of course they differed in the full court and gave their reasons for doing so. Doubtless the case will not end here. Unless the "law's delay" has utterly disheartened the medical officer, or other circumstances prevent him, it is most likely to be argued after a further delay before the Court of Appeal in this country.

GETTING RICH "BY DEGREES."

RATHER more than a generation ago our contemporary the *Athenæum* brought to light a manufactory of bogus degrees, "Clinton College, Arkansas," a non-existent seat of learning, being the manufactory in question. The *modus operandi* was this: the names of professional men, mainly in the British Isles, having been ascertained, the "Senatus of Clinton College, Arkansas," approached each of them by letter, intimating that their fame had reached those parts, and that in gratitude for their services to literature or science (as the case might be) it had conferred upon them the College degree in one or other of the faculties and, in token of the same, tendered them the diploma, duly engrossed, the expenses of which (eight or ten guineas) the recipients were kindly to make good to "our Mr. So-and-So," who would be found at a London address which was given. The swindle having been exposed and "our Mr. So-and-So" having had to make precipitate tracks in the direction of "Clinton College, Arkansas," the world has heard little more of the systematic falsification of academic diplomas till the other day at Bologna, where the forging of the University stamp and the affixing the same to diplomas which had never been granted have been proved by the Autorità Giudiziaria to have been recently practised on a rather serious scale. The chief culprit is, it seems, a tailor, Paolo Rota by name, who, in order to get rich "by degrees," applied himself to producing facsimiles of the diploma of the "Mother of Universities," and with such success as to have established something like a *clientèle* among academic aspirants of more ambition than honesty. He is now in the prison of San Giovanni in Monte and at least three of his "graduates" are at present "wanted" by the police. From what has already been put *en évidence* it is believed that "altri fatti non meno scandalosi" (other facts not less scandalous) will shortly be made public, and not only at Bologna, but at other scarcely less prominent seats of learning.

WE understand that the newly-elected medical staff at the Chelsea Hospital for Women have decided that in future the cases admitted there will be restricted entirely to diseases

peculiar to women. In the past the operations performed have not been restricted to this class of disease. The new regulation is, we think, a step in the right direction.

Pharmacology and Therapeutics.

EFFECT OF IODIDE OF POTASSIUM ON THE BLOOD.

ACCORDING to Dr. T. V. Ishunin[1] of St. Petersburg, who has examined the blood of fifteen patients and four healthy persons before and after taking iodide of potassium, the effect of quantities of this drug ranging from fifteen to thirty grains per diem on non-syphilitic patients and on healthy subjects is, during the first two or three days of its administration, to increase the number of young corpuscles and to diminish the number of over-mature white corpuscles in the blood, and at the same time to increase the number of those breaking up. As to the total number of corpuscles per cubic millimetre, the effect of the iodide appears to be to cause an increase, but a slight one. When the iodide is given to syphilitic persons the over-mature elements increase in number and the immature white corpuscles and those which are breaking up decrease.

GUAVA LEAVES IN DIARRHŒA.

Dr. K. Hugel[2] of Würzburg has recently carried out a large number of observations on the value of the white guava plant (Psidium pyriferum) in diarrhœa and cholera nostras. The astringent virtues of the plant are recognised both in Java and in the Brazils, where the natives use it as a household remedy. The preparation employed by Dr. Hugel was an infusion made from five parts of the leaves and eighty parts of boiling water, with the addition of twenty parts of syrup. Of this a tablespoonful was ordered hourly or every two hours, according to the gravity of the case. For children, of course, a smaller dose was prescribed. Sometimes, instead of the infusion the leaves in powder were ordered, the quantity in each powder being from eight to fifteen grains. After using this remedy in several hundred cases of infantile cholera Dr. Hugel became convinced of its superiority over all ordinary remedies for acute gastro-enteritis. After three or four doses had been given the most severe cases of diarrhœa and vomiting showed a decided improvement In five cases of cholera nostras in the adult the vomiting, diarrhœa, cramps, and drowsiness rapidly disappeared after the administration of half a grain of calomel, followed by a few doses of guava infusion. In the chronic diarrhœa of phthisis and in the diarrhœa of typhoid fever this remedy also proved useful; also in dyspepsia, and in chronic gastric and intestinal catarrh. In all Dr. Hugel's experience he never met with any case in which guava produced any disagreeable effects. He has not himself had an opportunity of trying it in true cholera, but he understands that it is used in that disease by the natives of Java.

MERCURIALISED TRAUMATICINE IN SYPHILIS.

Traumaticine, a 10 per cent. solution of gutta-percha in chloroform, has been employed by Dr. Peroni of Turin,[3] as a convenient vehicle for the cutaneous administration of mercury in syphilis. He adds to it a quarter of its weight of calomel, and after the patient has had a bath the syphilitic patches, if there are any, are painted over with the liquid. If there are none the back is painted all over, and when the chloroform has evaporated the skin is left coated with a mercurial varnish which adheres closely. This treatment is repeated three times a week until the specific symptoms have disappeared. In papular, pustular, and squamous syphilides a successful result may be expected in from three weeks to a month. Of course, general treatment can be carried on simultaneously, but in very weak subjects, or in such as do not bear the internal administraton of mercury well, the traumaticine method is very suitable alone. It may also be employed in the case of children with hereditary syphilis and in late cutaneous eruptions.

SULPHIDE OF CALCIUM OR BARIUM AS A DEPILATORY.

Dr. Annequin,[4] a French military surgeon, recommends as a depilatory before operations in regions where shaving is difficult, such as the scrotum or anus, the use of sulphide of calcium, made into a paste with water, and applied to the hairy surface. This removes the hair completely in less than ten minutes without causing any irritation of the skin or injuring the hair-follicles. The sulphide of barium may similarly be used mixed with half its weight of starch powder and the same quantity of oxide of zinc. This is made into a paste by the addition of water and is applied to the part.

ANTI-TOXIC EFFECT OF SALAMANDER'S BLOOD.

It is known that the salamander is but little affected by curare, the reason being, according to some observations communicated to the Société de Biologie, Paris, by M. Phisalix,[5] that there is in this animal's blood some anti-toxic substance. He found that a mixture of the defibrinated blood of the salamander, with a considerable quantity of curare, was inert when introduced into the system of a frog. He believes that this anti-toxic effect was due to some vital principle rather than to a mere chemical antidote, for frogs into whose peritoneal cavities salamander's blood had been injected remained for a long time incapable of being acted upon by curare. These facts appear to afford some explanation of the tolerance of the toad, salamander, and some other animals to the poison of reptiles which is more or less similar in its effects to curare.

[1] St. Petersburg Dissertations, 1894, No. 120.
[2] La Semaine Médicale, 25 Juillet, 1894.
[3] Thesis by Dr. F. Cauchard, quoted in La Semaine Médicale, 1er Août, 1894.
[4] La Semaine Médicale, 1er Août, 1894.

TWENTY-SECOND ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD, 1892—1893.

THE supplement of this departmental report, which is made up of the medical officer's report and the appendices to the same, has just been published, and is an interesting and important volume. At first sight the discrepancy between the date of publication and the dates of the subjects referred to would seem to accuse the Local Government Board of very leisurely methods; but when we consider the mass of material requiring to be exhaustively dealt with in an annual report of this character, we shall agree that the dilatoriness is only apparent.

Dr. Thorne Thorne commences his report by summarising the returns made by vaccination officers for the year, from which it appears that of children whose births were registered in England and Wales during the year 1890, there remained 11·3 per cent. not finally accounted for as regards vaccination, the percentage for the metropolis being 13·9, and for the provinces 10·9. These figures indicate a larger amount of default in regard of vaccination than any which has been recorded since the passing of the Vaccination Act of 1871. In the metropolis the percentage of births unaccounted for has during the decade 1881–1890 risen almost continuously from 5·7 to 13·9, and in the provinces there has during the same period been an unbroken rise from 4·3 to 10·9. A marked increase in these rates took place as regards children whose births were registered during the year 1888, and whose vaccination became due at the latest during 1889. In the metropolis the amount of default indicated is now nearly two and a half times as great, and in the provinces it is nearly two and a quarter times as great as it was ten years ago. These figures Dr. Thorne Thorne finds very significant as affording an indication of a growing increase in the younger population of persons who are altogether without protection against small-pox; and to us they seem to constitute a very urgent argument for the prompt issue of the report of the Royal Commission on Vaccination, which was appointed in May, 1889, ceased to take evidence at the end of 1893, but has not yet spoken. The mischief which further delay may do is well illustrated by the meeting held in the East End on Tuesday last, when 2000 persons met in the Mile-end-road at Mr. Charrington's Hall to protest against the enforcement of the "iniquitous compulsory" vaccination laws. Mr. Hopwood in addressing this meeting quoted Professor Crookshank's evidence before the Royal Commission, and said nothing of contrary or rebutting evidence. Mr. Hopwood is a lawyer. What sort of respect would he have for the layman (in a legal sense) who should pronounce in public on a case still *sub judice* upon the evidence of one witness? A short sentence would hardly meet such a case.

[5] Session July 28th. Report in Le Bulletin Médical, 1er Août, 1894.

A considerable portion of the report is taken up by the account of the origin and progress of the Western diffusion of cholera in 1892 from the pen of Dr. Barry. In compiling this admirable article Dr. Barry has levied statistical tribute from many sources, among others, as he duly acknowledges, the special correspondent of THE LANCET. Dr. Barry's paper really constitutes a review of the whole outbreak. With reference to its spread, the table showing the invaded places between the dates of March 31st and November 14th, 1892, sets before the eye at a glance the enormous latitude, in an epidemiological sense, of the prevalence of the disease. Cholera during that time extended eastwards to India, Afghanistan, and Mongolia. It overspread the Russian Empire in all its portions with more or less virulence, and it appeared in Europe, attacking, in categorical order, European Russia, Turkey, France, Belgium, Germany, England, Holland, Austria; and, amid circumstances of quarantine horrors which impressed themselves permanently in the minds of all men, it found its way into the State of New York, and carried off twelve persons out of the sixteen who were attacked.

From Dr. Barry's appendix it appears that no accurate information concerning the origin of cholera in Russia can be obtained. Of this Dr. Thorne Thorne merely says: "The story of the Russian cholera includes some records of the manner in which waterways serving as lines of human traffic serve also as carriers of cholera. The details emphasise the power for mischief of a cholera infected water-supply." Tables and charts are employed to show this, and large extracts are given from Dr. Clemow's account of the Russian epidemic which was originally published in THE LANCET. From Batoum cholera was supposed to have been introduced into the Turkish Empire, and the earliest records seem to indicate importation by persons. It is the French outbreak at Nanterre prison which has been most puzzling to investigators. In Dr. Barry's table the reputed origin of the infection at Nanterre, the outbreak at which place began on March 31st, 1892, is represented by a mark of interrogation. In the body of the report he writes: "On April 4th an inmate of the Maison Départementale of Nanterre was attacked with choleraic symptoms and died in twenty-four hours." On April 6th another inmate was attacked "who had not and could not have had any contact with the case noted above." The word "obscurity" is frequently used in connexion with the importation of cholera to this establishment. It has been suggested that the outbreak arose from "a recrudescence" of past epidemics, an etiological description which is rather vague in its nature. Belgium affords information more precise. Cholera was, as it appears from this report, brought from Havre into Antwerp, and it spread from that port throughout the country, slaying nearly one thousand people. The German Government had taken extra precautions to prevent an outbreak. They controlled the port, regulated the water traffic, and made laws about alien emigration from Russia. But cholera attacked Hamburg, and, as the report indicates, in may have been imported by Jews from Russia, or through French ships from Havre. However that may be, it caused 8605 deaths in that town alone. England, Holland, Austria, Denmark, Norway, Italy, and North-western Africa are all stated to have derived their infection from Hamburg.

The facts recorded in Dr. Barry's appendix, like the circumstances attending the various localised outbreaks, are too diversified to allow the formulation of any definite statement on the mode of origin of cholera. So far as is taught by the present report it is widespread in its distribution, variable in its mode of arrival, and more fatal in certain circumstances than in others; all of which has been evident to generations of observers. With regard to its mode of dissemination in a district, a country, or a continent, the present work can scarcely be said to throw more light. In France the relation of the death-rate to bad water-supply is shown to be very decided. Districts supplied by water taken below sewer outfalls had a cholera death-rate fourteen times greater than those supplied by water taken above such outfall. This was pointed out in THE LANCET in connexion with the French epidemic, and illustrated with great precision during 1892. The maps of Germany seem to indicate a large incidence of the disease along the waterways. The outbreak at Hamburg spread rapidly, whereas in England in 1892 "in no instance did the disease extend to any person other than those arriving from abroad." It may be the case that in some instances drinking sewage water is the medium of its spread, or, as this report seems to indicate in the case of Altona, spread may be due even in the case of filtered supplies to the lack of "a slimy layer of mud on the surface of the filter," which reduces the risk of mischief to a minimum. But it is evident from the report that these causes do not invariably act with equal intensity. Dr. Koch's explanation of the fact that in Hamburg 26 per cent. of the population were attacked, and in Altona, an adjoining town, only 4 per cent.—namely, "that Altona was protective against the cholera by the filtration of the water of the Elbe"—is alluded to by Dr. Barry at some length, and Dr. Thorne Thorne refers to this explanation as likely to become historic. An article on the subject in THE LANCET of Aug. 25th, 1894, shows that a similar difference of mortality rates was demonstrable from former epidemics even when the water-supplies were the same. The same article shows also that "cholera has never developed at Altona with the same intensity as at Hamburg," and points out that it would be a very mischievous error to imagine that Hamburg has become a safe town because its supply of drinking-water is now carefully filtered. The variability of the duration of localised cholera outbreaks will also be apparent from this report. In some parts the wave passed suddenly; in others, as in France, the disease lingered from the middle of August till the end of the year. The volume contains also many important allusions in reference to the English system of cholera administration, the quarantine proposals, and remarks by Dr. Thorne Thorne on the auxiliary scientific investigations which have been undertaken by this department of the service. We may remark that the statements and deductions have been illustrated largely by tables, diagrams, and coloured maps. These last are an essential.

The report concludes with an article on the antagonisms of microbes by Dr. Klein. It contains an account of the experiments which have been conducted by Dr. Pfeiffer, by M. Haffkine, and by himself, with a view to elucidating the pathogeny of different microbes. Dr. Klein's view that anti-cholera inoculation has no protective value against the disease will doubtless be carefully noted by many investigators. Other papers of interest are contributed by Dr. Cautley, Dr. F. W. Andrewes, and by Dr. Sidney Martin, and enhance the value of a report upon which we heartily congratulate Dr. Thorne Thorne and his staff.

CHOLERA.

SPEAKING generally, we may say that cholera continues to prevail in Russia, in Galicia and Bukovina, in Holland, and to a limited, though somewhat increased, extent in certain parts of Germany. From Brussels numerous cases have been reported, but the little epidemic at Liège is stated to have nearly disappeared; several cases have occurred, however, at Tilleur, Jemeppe, Seraing, St. Nicolas, and Neerpelt. As regards our own country we are glad to be able to report that it remains free from cholera or suspected cholera.

Entering somewhat more into detail, we have to chronicle that the official returns from Russia show that there were some 5518 cases and 2546 deaths in European Russia during the week, and that the more seriously infected governments were those of Warsaw, Kielce, and Radom.

As regards Germany, the returns, as we have said, show an increase of the disease; still these figures are, up to the present time, far from indicating an epidemic prevalence of cholera in that country. The disease exists chiefly in East Prussia, in the Vistula and Netzcand Wasthe territories, in Upper Silesia, district of Potsdam, and the Rhine territory, where cases more or less numerous have made their appearance, but the disease may be generally said to have been of the sporadic type. A sharp circumscribed outbreak is reported to have occurred at Büzeln, near Marburg, in Hesse, where 12 cases and 3 deaths took place in that village in the course of a few hours. In consequence of the appearance of cholera cases in East Prussia, chiefly in districts near the River Weichsel, the Emperor of Germany has been reluctantly compelled to forbid any popular assemblages and demonstrations at the army manœuvres. The troops have been subjected to strict medical inspection. The disease, apparently of severe and fatal type, still persists in Galicia and Bukovina, and it is reported to have made its appearance in nearly half of the total number of districts in those provinces, and to

have extended to Lomberg, the Galician capital, and to the district of Bielitz in Silesia.

Reports from Holland show that cases continue to make their appearance at Amsterdam, Maestricht, Dordrecht, Flushing, Landsmeer, Heer, Heugem, Elsobeek, Nieuwpoort-on-the-Lok, and other places. A case is also reported to have occurred at Ostend.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORT OF THE MEDICAL OFFICER OF HEALTH OF THE LONDON COUNTY COUNCIL FOR THE YEAR 1892.

[FIRST NOTICE.]

RELATING as it does to the sanitary conditions under which the greatest aggregation of population which the world has yet witnessed lives, the report which Mr. Shirley Murphy has recently presented to the London County Council assumes a historical interest and importance which it would be difficult to overrate. We may say at once that the report is worthy in every way of its importance, and from the statistical information it contains it is especially well fitted to form the first volume of the series which it inaugurates. It will be read with profit and pleasure not only by all medical officers of health and sanitary reformers, but also by those who take an interest in the fluctuations of urban communities and the theory with which the name of Malthus is inseparably connected. Commencing with a consideration of the census figures of London during the present century, Mr. Murphy points out how between 1801 and 1841 the population doubled itself, and that during the next forty years a nearly equally remarkable increase took place. These facts, as also the percentage increase at each census year up to 1891, are well shown by the subjoined table :—

Year.	Population.	Increase per cent.	Year.	Population.	Increase per cent.
1801	958,863	—	1851	2,362,236	21·2
1811	1,138,815	20·8	1861	2,803,989	18·2
1821	1,378,947	21·0	1871	3,254,260	16·0
1831	1,654,994	20·0	1881	3,815,544	17·2
1841	1,948,417	17·7	1891	4,211,743	10·3

It will be seen by these figures how small a percentage increase took place in the last decade as compared with previous decades of this century. After referring to the fact that the population of London is affected by immigration and emigration as well as by the excess of births over deaths, Mr. Murphy shows that, while during previous decades the population of London was being added to by excess of immigration over emigration, during the last decade the position has been reversed, and London has lost, by the excess of emigration over immigration, more than 114,000 of the population it would have had if there had been no immigration or emigration. From the census figures for 1891 Mr. Murphy demonstrates that the change referred to has been due chiefly to the falling off of the increase by immigration and not to an increase of emigration. There has also been some falling off in the increase of natives of London. The falling off in immigration has been less marked among females than males, and the falling off of the increase in natives of London has been more marked among the males than females; the proportion of males to females, however, is still increasing in London, though to a less extent than between 1871 and 1881. The consideration of the census figures for London indicates, Mr. Murphy states, the following conclusions: (1) that immigration into London has greatly diminished in the decade 1881–90; (2) that the reduction is greater in males than females; and (3) that emigration has been greater in this decade than immigration.

Dealing with the sex and age distribution, Mr. Murphy supplies tables showing the proportions of the London population at the several age periods in each census year since 1851. By these it seems that as regards the census year 1891, although the age distribution at ages over ten was approximately similar to that in former census years, there was, owing to the decrease in the birth-rate—to be referred to later—a diminution in the number of children under ten. In the same section of the report tables are given showing that, although the relative proportion of males to females in London is still increasing, the increase does not obtain at all age periods. There were, it appears, for every 1000 males at all ages not only fewer males from 20 to 25 years in 1891 than 1881, but there were more females at the same age period per 1000 at all ages in 1891 than in 1881. It is seen, too, if a study of the census figures for 1861, 1871, and 1881 be made, that the males at 20–25 were in larger proportion than the males at 15–20, "a result undoubtedly due to migration and almost certainly immigration," while in 1891 the proportion of males at 20–25 had fallen below that of males at 15–20. When, however, the figures as regards the females are considered, it is seen that in each of the four census periods—i.e., 1891 included—the proportions at 15–20 and 20–25 were in excess of the proportion at 10–15, thus affording, as Mr. Murphy mentions "a further indication that the migration of females into London has been more sustained than that of males."

Changes and Density of Population in London Sanitary Districts.

This portion of Mr. Murphy's report possesses a peculiar interest for all Londoners and dwellers in large towns. Of the forty-one sanitary districts which comprise administrative London there are several which, so far from contributing to the general increase of population during the past decade, have exhibited a decided decrease. The decreases referred to are no doubt due almost entirely to the respective districts becoming more commercial and less residential in character. (*a*) The districts in which decreases have taken place during the last decennium are well shown by a capital chart, as also are (*b*) the districts in which the increase of population between 1881 and 1891 has been less than the excess of births over deaths in 1881 to 1890; and (*c*) the districts in which the increase of population between 1881 and 1891 has been greater than the excess of births over deaths in 1881–90. In reference to these districts Mr. Murphy points out that those with decrease of population between 1881 and 1891 are situated on the north of the Thames; those in group (*b*) to the south as well as to the north of the Thames, practically surrounding the first group; while districts in group (*c*) form an outer circle. The estimated population of the administrative county of London in the middle of 1892 was 4,284,678, and the average density of population 57 persons to an acre. A table is supplied in the report before us giving the estimated population of each sanitary district in 1892 and the average number of persons per acre in each district. From these tables we learn that the most densely populated districts were St. George, Southwark (211 persons per acre), Whitechapel (197), Shoreditch (191), and St. Georges-in-the-East (187). It seems that the greatest density of population hitherto attained by any district in London since 1811 was in St. Luke in 1861, when there were 241 persons per acre. In considering the density of population from the standpoint of the average number of persons occupying one house Mr. Murphy warns his readers that too much reliance is not to be placed on the figures, owing to the misunderstanding among the census enumerators as to what constituted a separate house. The figures—with this reservation—show that the greatest number of persons to a house were to be found in the Strand, where there were 11·6, St. Luke 10·7, St. Giles 10·6, and Clerkenwell 10·4; the smallest number were in Lewisham, 5·8. A table compiled from the census return for 1891 is found in Mr. Murphy's report, showing the number of persons occupying less than five rooms in the several sanitary districts. From this table it is shown that in Lewisham there were but 1·7 per cent. of the population occupying one room, as against 22·1 per cent. in St. George's-in-the-East. Judged by the standard of the proportion of population living in two rooms, Lewisham again occupies the place of honour with 3·7 per cent., while Clerkenwell comes last with 32·1 per cent. The distribution of "overcrowding" in the several districts is clearly depicted on a chart which accompanies the report; but it may be added that Lewisham here, as before, has the smallest proportion of the population (0·85 per cent.) living in overcrowded tenements of one room, whilst Whitechapel has the greatest (13·45 per cent.). It is at once apparent from the chart that the greatest overcrowding occurs in the districts surrounding the city.

Marriages.—During 1892 the 37,175 marriages in London yielded an annual rate of 17·4 per 1000 living, as against 17·1, 17·6, and 17·7 in the three previous years. The following table indicates the interesting fact that in each decennium

since 1851–60 the marriages of minors constituted an increasing proportion of total marriages:—

Marriages of Minors per cent. of Total Marriages.

Date.	Men.	Women.
1851–60	2·77	11·95
1861–70	3·56	14 56
1871–80	4·71	16·90
1881–90	5·53	18·91

And a chart, not here reproduced, represents graphically the fall in the marriage-rate during recent years.

Births.—There were born in the administrative county of London, during 1892, 131,999 children, giving a birth-rate of 30·9 per 1000. The illegitimate births yielded a rate of 3·7 per cent. of the total births. The highest birth-rates were to be found in St. Luke's, 45·5 per 1000 living; St. George's-in-the-East, 41·2; Whitechapel, 40·9; and Bethnal-green, 38·1. The report contains a chart showing the grouping of the several sanitary districts in regard to the birth-rate, and a diagram illustrating the excess and defect of the birth-rate in relation to the average birth-rate of the years 1851–1892.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Enteric Fever at Pocklington, by Mr. EVAN EVANS.—In this report Mr. Evan Evans gives a somewhat detailed account of the small town of Pocklington, in Yorkshire, which is symmetrically built on each side of the Beilby beck, a stream that is in several places dammed up for mill purposes, and is in part built over. The water-supply is largely from shallow wells sunk in the chalk gravel overlying impervious keuper marl; only twenty houses taking, as yet, the public water service. The drainage discharges into the beck, and certain of the sewers favour retention of putrid matter and were very offensive. Large accumulations were also found in some midden-privies. In April, 1893, enteric fever commenced in the place, and it continued up to October, there having occurred in that time 55 primary and 14 secondary attacks with 11 deaths. Water and milk did not appear to have been an important cause of the fever, and hence attention was turned to any facilities for the spread of the disease by the course of the subsoil water, by the passage from higher to lower levels of the contents of particular sewers, and by the influence of the flow of the beck. These points are discussed in detail, and cases of fever are cited in illustration of the views referred to. The question of rainfall is entered into, as also is the influence of heavy rain both upon certain wells and in the displacement of sewer air by the storm water, together with the facilities for the passage to the surface of gaseous products of decomposition brought about by the diminished atmospheric pressure immediately preceding the rainfall. Conditions such as these would exercise a baneful influence where the sanitary conditions as to household drainage were faulty, and as a matter of fact the majority of the invaded houses did present untrapped and defective house-drains communicating with unventilated sewers. Amongst the recommendations urged on the authority is a systematic reconstruction of the house-drains. All the recommendations should be carefully considered by the sanitary authority, for this is by no means the first experience which Pocklington has had of enteric fever.

Diphtheria at Rainham, Essex, by Mr. EVAN EVANS.—Rainham had apparently been free from diphtheria for several years before the commencement of the outbreak in question, which had its recognised beginnings in April, 1893; but, as is so commonly the case, investigation of the circumstances led to the discovery of a large amount of comparatively trivial illness amongst school children, including such throat affections as "mumps," which has more than once been confounded with diphtheria in cases where no medical treatment has been resorted to. In the latter part of April definite and fatal diphtheria came to be notified, and by the end of February of the present year there had been 77 attacks, with 19 deaths. Amongst the primary attacks in households 23 attended school and 20 did not, whereas of secondary attacks 11 only were attending school and 23 were not. But it is stated, in view of certain facts set out, that the notified cases only represent a fraction of the "throat illness" which prevailed in Rainham prior to and concurrently with diphtheria. Direct infection from person to person was undoubtedly the essential factor in the spread of the infection, and amongst the means for facilitating intimate contact between infected and healthy individuals the Rainham Elementary School occupies the first position. The transmission was, indeed, largely effected by means of cases of mild "sore-throat," and the extent and fatality of the disease were aggravated by the overcrowded and ill-ventilated condition of some of the smaller cottages, together with the percolation of sewage into the dwellings, owing to the defective sanitary circumstances which prevailed. But much sickness might have been saved had the district possessed a proper sanitary organisation. There were want of hospital provision and neglect of systematic disinfection of infected dwellings and of articles—such as bedding—in addition to local conditions affecting water, sewerage, and excrement disposal which call for remedial measures.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6013 births and 3369 deaths were registered during the week ending Aug. 25th. The annual rate of mortality in these towns, which had been 17·6 per 1000 in each of the preceding two weeks, declined last week to 16·8. In London the rate was 15·4 per 1000, while it averaged 17·8 in the thirty-two provincial towns. The lowest rates in these towns were 10·7 in Plymouth, 12·2 in Huddersfield, 12·3 in Cardiff, 13·2 in Hull, and 13·3 in Birkenhead; the highest rates were 20·6 in Brighton, 21·3 in Salford, 26·1 in Sunderland, 27·2 in Liverpool, and 27·6 in Preston. The 3369 deaths included 650 which were referred to the principal zymotic diseases, against 752 and 721 in the preceding two weeks; of these, 395 resulted from diarrhœa, 63 from measles, 59 from whooping-cough, 53 from diphtheria, 40 from scarlet fever, 31 from "fever" (principally enteric), and 4 from small-pox. No fatal cases of any of these diseases occurred last week in Swansea; in the other towns they caused the lowest death-rates in Halifax, Huddersfield, and Plymouth, and the highest rates in Leicester, Liverpool, Burnley, Preston, and Sunderland. The greatest mortality from measles occurred in Salford; from whooping-cough in Newcastle-on-Tyne, Salford, and Oldham; from "fever" in Wolverhampton; and from diarrhœa in Gateshead, Leicester, Burnley, Preston, Liverpool, and Sunderland. The 53 deaths from diphtheria included 43 in London, and 2 each in Brighton, Portsmouth, Liverpool, and Manchester. Two fatal cases of small-pox were registered in London, 1 in Plymouth, and 1 in Birmingham, but not one in any other of the thirty-three large towns. The number of small-pox patients in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital, which had been 215, 209, and 179 at the end of the preceding three weeks, had further delined to 158 on Saturday last, Aug. 25th; 34 new cases were admitted during the week, against 40, 28, and 37 in the preceding three weeks. There were 2117 scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week, against 2221, 2193, and 2132 on the preceding three Saturdays; 208 new cases were admitted during the week, against 208 and 182 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 151 and 144 in the preceding two weeks, rose to 148 last week, but were 24 below the corrected average. The causes of 44, or 1·3 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Nottingham, Hull, Newcastle-on-Tyne, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Preston, and Halifax.

In thirty-three of the largest English towns 6354 births and 3051 deaths were registered during the week ending Sept. 1st. The annual rate of mortality, which had decreased from 17·6 to 16·8 in the preceding three weeks, further declined to 15·2 last week. In London the rate was 14·4 per 1000, while it averaged 15·8 in the thirty-two provincial towns. The lowest rates in these towns were 9·0 in Derby, 10·6 in Bristol, 10·7 in Croydon, 11·3 in Burnley, and 11·9 in Cardiff and in Plymouth; the highest rates were 18·5 in Leicester, 18·8 in Birkenhead, 19·3 in Brighton, 20·7 in Liverpool, 21·8 in Sunderland, and 22·5 in Preston. The 3051 deaths included 509 which were referred to the principal zymotic diseases, against 721 and 650 in the preceding two weeks; of these, 268 resulted from diarrhœa, 68 from whooping-cough,

48 from diphtheria, 47 from measles, 40 from "fever" (principally enteric), 25 from scarlet fever, and 13 from small-pox. These deaths caused the lowest rates in Huddersfield, Bristol, Halifax, Cardiff, and Plymouth; and the highest rates in Sheffield, Wolverhampton, Leicester, Gateshead, Sunderland, and Preston. The greatest mortality from measles occurred in Croydon and Preston; from whooping-cough in Norwich, Cardiff, Swansea, Burnley, Sunderland, and Gateshead; from "fever" in Sunderland; and from diarrhœa in Sheffield, Gateshead, Brighton, Leicester, and Preston. The 48 deaths from diphtheria included 33 in London, 3 in West Ham, and 3 in Sheffield. Seven fatal cases of small-pox were registered in London, 4 in Birmingham, and one each in Wolverhampton and in Leeds, but not one in any other of the thirty-three towns. There were 163 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 1st inst., against 209, 179, and 158 at the end of the preceding three weeks; 40 new cases were admitted during the week, against 23, 37, and 34 in the preceding three weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2112, against 2193, 2133, and 2117 on the preceding three Saturdays; 232 new cases were admitted during the week, against 182 and 208 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 144 and 148 in the preceding two weeks, declined to 123 last week, and were 36 below the corrected average. The causes of 49, or 1·6 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Cardiff, Salford, Blackburn, Leeds, Newcastle-on-Tyne, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Leicester, Birmingham, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the preceding three weeks from 16·3 to 14·6 per 1000, rose again to 14·9 during the week ending Aug. 25th, but was 1·9 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 6·9 in Perth, and 13·0 in Aberdeen and in Leith, to 15·8 in Greenock and 16·3 in Glasgow. The 425 deaths in these towns included 31 which were referred to diarrhœa, 14 to diphtheria, 7 to whooping-cough, 6 to scarlet fever, 5 to "fever," 3 to measles, and not one to small-pox. In all, 66 deaths resulted from these principal zymotic diseases, against 69 and 48 in the preceding two weeks. These 66 deaths were equal to an annual rate of 2·3 per 1000, which was 0·9 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 39 and 20 in the preceding two weeks, rose again to 31 last week, of which 18 occurred in Glasgow, 4 in Edinburgh, and 4 in Dundee. The deaths referred to diphtheria, which had been 3 and 7 in the preceding two weeks, further rose to 14 last week, and included 5 in Glasgow, 4 in Edinburgh, 3 in Aberdeen, and 2 in Dundee. The 7 fatal cases of whooping-cough showed a decline of 3 from the number in the preceding week, and included 5 in Glasgow. The deaths from scarlet fever, which had been 4 and 3 in the preceding two weeks, rose to 6 last week, of which 4 occurred in Glasgow. The fatal cases of "fever," which had declined from 7 to 3 in the preceding three weeks, rose again to 5 last week, and included 4 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 56 and 54 in the preceding two weeks, further declined to 51 last week, and were 15 below the number in the corresponding week of last year. The causes of 27, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

The annual rate of mortality in the eight Scotch towns, which had been 14·6 and 14·9 per 1000 in the preceding two weeks, further rose to 15·6 during the week ending Sept. 1st, and was 0·4 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged upwards from 10·0 in Greenock and 13·8 in Edinburgh to 20·0 in Paisley and 20·7 in Perth. The 445 deaths in these towns included 17 which were referred to diarrhœa, 11 to diphtheria, 8 to "fever," 7 to whooping-cough, 6 to measles, 1 to scarlet fever, and not one to small-pox. In all, 50 deaths resulted from these principal zymotic diseases, against 48 and 66 in the preceding two weeks. These 50 deaths were equal to an annual rate of 1·8 per 1000, which was 0·7 below the mean rate last week for the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 20 and 31 in the preceding two weeks, declined to 17 last week, of which 8 occurred in Glasgow. The deaths from diphtheria, which had increased from 3 to 14 in the preceding three weeks, declined to 11 last week, and included 5 in Glasgow and 4 in Edinburgh. The fatal cases of "fever," which had been 4, 3, and 5 in the preceding three weeks, rose to 8 last week, of which 5 occurred in Glasgow. The deaths from whooping-cough, which had been 8, 10 and 7 in the preceding three weeks, were again 7 last week, and included 6 in Glasgow. The deaths from measles, which had declined from 10 to 3 in the preceding three weeks, rose to 6 last week, of which 2 occurred in Glasgow and 2 in Aberdeen. Scarlet fever, which caused 4, 3, and 6 deaths in the preceding three weeks, caused only one last week, which occurred in Glasgow. No death from small-pox occurred in any of the eight towns. The deaths referred to diseases of the respiratory organs in these towns, which had been 54 and 51 in the preceding two weeks, rose to 53 last week, and were 19 below the number in the corresponding period of last year. The causes of 32, or more than 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 18·5 and 19·7 per 1000 in the preceding two weeks, further rose to 28·0 during the week ending Aug. 25th. During the past eight weeks of the current quarter the death-rate in the city has averaged 20·2 per 1000, against 16·7 in London and 14·7 in Edinburgh. The 188 deaths registered in Dublin during the week under notice showed an increase of 56 upon the number in the preceding week, and included 27 which were referred to the principal zymotic diseases, against 13 and 14 in the preceding two weeks; of these, 9 resulted from diarrhœa, 6 from small-pox, 4 from scarlet fever, 4 from whooping-cough, 4 from "fever" (principally enteric), and not one either from measles or diphtheria. These 27 deaths were equal to an annual rate of 4·0 per 1000, the zymotic death-rate during the same period being 2·8 in London and 1·7 in Edinburgh. The fatal cases of diarrhœa, which had been 8 and 6 in the preceding two weeks, rose again to 9 last week. The deaths referred to small-pox, which had been 1 and 3 in the preceding two weeks, further rose to 6 last week. The 4 fatal cases of whooping-cough also showed a further increase upon the numbers recorded in recent weeks. The mortality from scarlet fever and from "fever" exceeded that recorded in any recent week. The 188 deaths in Dublin last week included 44 of infants under one year of age, and 47 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a marked increase upon the numbers in recent weeks. Five inquest cases and 4 deaths from violence were registered; and 68, or more than a third, of the deaths occurred in public institutions. The causes of 18, or nearly 10 per cent., of the deaths in the city last week were not certified.

The death-rate in Dublin, which had risen from 18·5 to 28·0 in the preceding three weeks, declined again to 19·5 during the week ending Sept. 1st. During the past nine weeks of the current quarter the death-rate in the city has averaged 20·1 per 1000, against 16·4 in London and 14·6 in Edinburgh. The 131 deaths registered in Dublin during the week under notice included 17 which were referred to the principal zymotic diseases, against 14 and 27 in the preceding two weeks; of these, 10 resulted from diarrhœa, 4 from "fever," 2 from whooping-cough, 1 from scarlet fever, and not one from small-pox, measles, or diphtheria. The 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 2·1 in London and 1·5 in Edinburgh. The fatal cases of diarrhœa, which had been 7, 8, 6, and 9 in the preceding four weeks, further rose to 10 last week. No death was referred to small-pox, the numbers in the preceding three weeks having been 1, 3, and 6. The deaths from "fever," which had been 3, 1, and 4 in the preceding three weeks, were again 4 last week. The 131 deaths in Dublin last week included 22 of infants under one year of

age and 26 of persons aged upwards of sixty years, each of these numbers showing a marked decline from those in the preceding week. Five inquest cases and 4 deaths from violence were registered; and 41, or nearly one-third, of the deaths occurred in public institutions. The causes of 6, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-MAJOR W. DICK, having reported his arrival at Netley, is posted to the Medical Division of the Royal Victoria Hospital. Surgeon-Major A. Asbury is transferred from Dublin to Mullingar; Surgeon-Captain R. E. Kelly, from Cork to Cahir; and Surgeon-Captain H. D. Rowan, from the North-Eastern district to Aldershot. Surgeon-Major S. J. Flood is under orders to join the Eastern district and Surgeon-Major J. G. Crofts to proceed to Ireland. Surgeon-Lieutenant-Colonel G. D. N. Leake has joined at Salford from Chipping. Surgeon-Major G. F. A. Smythe, Surgeon-Captain T. Du B. Whaite, and Surgeon-Lieutenant W. H. O'Reilly will embark for India in the transport *Victoria*, leaving Southampton on the 13th inst.

INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen has approved of the following admissions to the Indian Medical Service:—To be Surgeon-Lieutenants (dated July 28th, 1894): *Bengal:* George Ramsay, David Waters Sutherland, William Selby, Thos. Arthur Granger, Harold John Kinahan Bamfield, John Wemyss Grant, Arthur Henry Moorhead, Wm. Davey Hayward, Archibald William Forbes Russell, and William Elmsley Scott-Moncrieff. *Madras:* Charles Ross Pearce. *Bombay:* Vivian Boase Bennett, Hugh Myddleton Moore, and Dudley Cater Johnston. The following appointments are announced:—Surgeon-Captain C. N. Bensley, Civil Surgeon, Chanda, is appointed to the Executive and Medical Charge of the Chanda Gaol. Surgeon-Major C. B. Hunter, I.M.S. (Bengal), to be a Civil Surgeon, and is posted to the Seoni district. Surgeon-Major Ulick Bourke, A.M.S., to the Medical Charge of the Station Hospital, Mhow. Surgeon-Captain Sutton, A.M.S., to the Medical Charge of the Station Hospital, Purandhur. Surgeon-Captain R. C. Macwatt, M.B., I.M.S., Superintendent of the Central Gaol, Raipur, to the Executive and Medical Charge of the Central Gaol, Nagpur, until further orders. Surgeon-Captain M. A. Ker, I.M.S. (Bengal), to officiate as joint Medical Officer of Simla, until further orders. Surgeon-Lieutenant-Colonel A. S. Reid, M.B., I.M.S. (Bengal), Medical Officer, 2nd Battalion, 4th Gurkha Regiment, to officiate as Agency-Surgeon in Baghelkhand and Tutor to His Highness the Maharaja of Rewah, until further orders. Surgeon-Captain W. G. P. Alpin, M.D., is transferred from Sitapur to Hardoi. Surgeon-Lieutenant-Colonel Hugh Johnstone, M.D., is promoted to the rank of Brigade-Surgeon-Lieutenant-Colonel. Surgeon-Major Adams remains in England till Nov. 26th, in extension. The under-mentioned officers have leave of absence:—Surgeon-Major Peterkin, A.M.S., for five months. Surgeon-Major H. B. Briggs, M.B., I.M.S., M.O., 12th Bombay Infantry, for one year.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel A. A Macrobin, M.B., is promoted to the rank of Brigade-Surgeon-Lieutenant-Colonel. Surgeon-Major Henry James McLaughlin, M.B., is placed on temporary half-pay on account of ill-health.

NAVAL MEDICAL SERVICE.

The following appointments are notified:—Surgeons: H. W. Finlayson, M.B., to the *Lizard;* J. E. Coad, M.B., to the *Royal Sovereign;* and H. E. Tomlinson to the *Cambridge*. The following Surgeons are promoted to the rank of Staff-Surgeon:—W. H. Norman; J. McCardie Martin; J. L. Bignall-Oakley; Francis Woore; W. M. Craig, M.B.; and H. S. Jackson.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant George Rory John Fletcher, 22nd Middlesex Volunteer Rifle Corps, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery:—1st Lincolnshire (Western Division, Royal Artillery): Surgeon-Lieutenant-Colonel T. Newby, M.D., resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the corps on his retirement.—Surgeon-Lieutenant E. Sharpley resigns his commission; Surgeon-Lieutenant G. S. Stephenson, M.B., resigns his commission.—1st Midlothian: Surgeon-Major P. A. Young, M.D., to be Surgeon-Lieutenant-Colonel.—1st Devonshire (Western Division, Royal Artillery): William Arthur Payne, M.B., to be Surgeon-Lieutenant.—1st Glamorganshire: Surgeon-Lieutenant G. H. Hopkins is appointed Captain.—*Rifle:* The Queen's Rifle Volunteer Brigade, the Royal Scots (Lothian Regiment): The undermentioned Surgeon-Lieutenants to be Surgeon-Captains: W. H. Miller, M.D.; J. H. A. Laing, M.B.—2nd (Earl of Chester's) Volunteer Battalion, the Cheshire Regiment: Thomas James Selby, M.B., to be Surgeon-Lieutenant.—2nd (South) Middlesex: Surgeon-Lieutenant L. P. J. Finegan resigns his commission.—4th (Cambridge University) Volunteer Battalion, the Suffolk Regiment: Surgeon-Lieutenant J. Griffiths, M.D., to be Surgeon-Captain.—2nd Volunteer Battalion, the Duke of Cornwall's Light Infantry: Surgeon-Captain W. Hammond to be Surgeon-Major.

VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: Surgeon-Lieutenant I. J. E. Renshaw to be Surgeon-Captain.

THE I.M.S. EXAMINATION.

The following candidates for Her Majesty's Indian Medical Service were successful at the competitive examination recently held at Burlington House:—C. T. Milne, F. H. Watling, A. F. Stevens, A. Gwyther, W. Carr, J. D. M'Millan, C. H. Bensley, A. E. I. Ward, S. Evans, J. H. M'Donald, E. J. Morgan, F. Wall, C. M. Mathew, and J. A. Hamilton.

Correspondence.

"Audi alteram partem."

"THE CHELSEA HOSPITAL FOR WOMEN."

To the Editors of THE LANCET.

SIRS,—I sincerely hope that the governors and friends of the Chelsea Hospital for Women will read the leading article in THE LANCET of Aug. 25th and demand a full explanation of the Board of Management's action with regard to the late staff as well as a detailed account of its stewardship generally. My own request for an explanation has been postponed over two meetings, and I have no doubt that the board has considerable difficulty in finding any plausible excuse for sacrificing some of my late colleagues and myself. I must ask your kind permission, therefore, to say a few words in justification of my own position. At no time during my seven years of office have I had anything whatever to do with the management of the hospital. In conjunction with some of my colleagues I have repeatedly made suggestions which would have entirely covered the recommendations of the committee of inquiry had they been adopted. Complaints, very distinct and emphatic, have been made in writing as well as verbally. I have a letter before me offering "information" in proof of my statements. That "information" has never been asked for from that day to this. The letter is dated Oct. 15th, 1893, and addressed to the chairman of the house committee, who is also vice-chairman of the Board of Management. I find that, after stating my complaints, I said: "This is the fourth time within the last few months that certain steps closely affecting the medical staff have been taken without a single one of them being consulted. These points may appear small in themselves, but I venture to consider them of extreme importance with regard to the discipline and management of the hospital, and would therefore, I am sure, not meet with the approval of any single member of the house committee were he fully cognisant of them." These assertions have never been contradicted.

On one occasion recently the chairman of this committee made the remark that I "was rather fond of making complaints." No one regretted more than I did the faulty management that made such complaints necessary. The management alone had the means of knowing what was taking place in the hospital as a whole, and persistently refused to recognise the staff as a committee responsible for medical matters. My own cases

gave no sort of vindication that "septic influences were prevalent." I maintain, therefore, that by not re-electing me the Board of Management has allowed, and still continues to allow, censure to fall on me on account of a condition of things for which the board itself was solely to blame, and over which I had absolutely no control, but which I did my utmost to remedy. During 1893 55 cases were under my care. These divide themselves into two groups: (*a*) 17 non-operation cases, all of whom recovered; and (*b*) 36 operation cases, attended with 3 deaths. The three cases terminating fatally were briefly as follows.

Case 1 was admitted with a sloughing submucous fibroid. The Commission reports that she was "septic on admission." The sloughing mass was removed, but she gradually sank, with all the symptoms of acute septicæmia. As the nature of the case was perfectly clear, special care was taken to prevent it infecting others, and I have every reason to believe that the measures adopted were completely successful.

Case 2, aged forty-six, suffered from a fibroid. In view of the recent rapid growth, the constant loss, the pressure symptoms, the fixity in pelvis, and the patient's complete incapacity for the previous seven months, hysterectomy was considered to offer the only chance. The operation was tedious from firm adhesions and lasted one hour and a quarter. The patient never really rallied, and died fifty-eight hours later of shock, with a temperature of 99·4°.

Case 3, aged thirty-eight, had been operated on for myomectomy two years previously. A rapidly growing fibroid now occupied the whole of the pelvis and extended to the umbilicus; it was fixed and gave rise to pressure symptoms. The patient's general condition was one of profound anæmia from continual loss of blood. The operation itself was, as the Commission said, a very difficult one, on account of the matting together of all the pelvic viscera. The shock of the operation was great; at the end of forty-two hours the temperature was 98·6°, and the pulse 130. She gradually sank, and died eighteen hours later with an ascending temperature. No necropsy was allowed, but the following facts—viz., her drowsy condition, her having vomited only three times after the operation, her having passed flatus frequently, her having no distension, there being no tenderness on pressure except in the immediate region of the wound, and her dying in sixty hours—do not tend to prove the existence of general peritonitis as certified by the resident medical officer without my knowledge.

The 33 recoveries included 1 myomectomy, 1 hysteropexy, 1 ventral herniotomy, 2 extra-uterine gestations, 1 ovariotomy, 6 curettings, 2 polypi, 5 perineorrhaphies, and other minor operations. As great stress has been laid on temperatures, I have gone through the charts of all these and find that in five only did the temperature at any time of the convalescence rise over 101°. In two of these the temperature was of the typical influenza character, rising and falling to normal again in twenty-four hours, with the usual general, but no local, symptoms. In two there was suppuration round one stitch. The fifth was one of the extra-uterine gestation cases. The patient was in a collapsed condition at the time of the operation, and the abdomen was full of blood. She did uninterruptedly well for two weeks, though her pulse never came below 100. On the sixteenth day she developed phlebitis in the left leg, from which she speedily recovered.

I am, Sirs, yours faithfully,

F. F. SCHACHT, M.D. Cantab.

Curzon-street, W., Aug. 25th, 1894.

To the Editors of THE LANCET.

SIRS,—In accord with its motto, "Audi alteram partem," THE LANCET alone of the lay and medical press has shown a disposition to hear the late medical staff of this hospital before convicting them. I shall only ask space now to confirm some of the views expressed in your leading article in THE LANCET of Aug. 25th. I would add that my experience is based on eleven years' connexion with the hospital as one of its physicians (for the last seven years on its senior in-patient staff), during which latter period I visited the hospital always on four days in each week, very often on seven. I was on the Board of Management in 1886–87, and again during the past eighteen months, and on the House Committee for the five years ending Christmas last. The former board was never kept *au courant* with the working of the hospital; it received reports presented to it, generally of no real import, and consulted carefully upon such matters as were brought to its notice, such as the election of new officers, &c. It always, however, steadily opposed the frequent attempts that were made to appoint a subcommittee of the medical staff, with power to report to the board direct (and not through th filtering medium of the House Committee) such matters as concerned the medical element of the hospital. The actual government of the institution has always, at least since my connexion with it, been in the hands of one, two, or three members, of late years styled the "House Committee." In earlier years these were men whose knowledge of hospital affairs kept the machinery running smoothly, but, unfortunately, during the past two or three years it has been only too clearly shown that "good intentions," alone, or combined even with "business capacity," but without any acquaintance with hospital government, could only result in utter failure. By-laws were continually altered to meet unimportant matters, and read most ridiculously, one absolutely contradicting its immediate fellow. The resolutions promulgated during the present year (many affecting in particular the medical staff) were quite impracticable, and none of them were presented to the board. Indeed three months ago I gave written notice to the House Committee "that at the following meeting of the Board of Management I should ask that the various resolutions issued since February last be now submitted to the board for their investigation and approval." The only two important suggestions made by Dr. Parkes had been pressed for by the medical staff long before. The ward hot-air gratings had for many years been complained of, and when at a very recent meeting of the Board of Management I noted this fact I was greeted with a torrent of vituperations from certain gentlemen.

In August, 1893, I obtained the consent of the House Committee to at once have the necessary ventilation made in the main drain in a manner that would have largely met Dr. Parkes' requirements. The plans were drawn, the builder arranged with the cost provided for, and the work was to be commenced forthwith, but on my return to town in October I found the matter had been postponed indefinitely. I know that other complaints of equal importance were made to the committee in the month of October, but were unheeded. The operation hour clashing with that of the House Committee prevented me from attending its meetings, except on rare occasions, and I had lately found that resolutions were made at all times and seasons without my being in the least degree consulted, although one of its members. In this late anxious time the staff have been treated as naughty children, and when they selected two of their number to represent them before the Commission the committee approved of the name of the one only, who was a member of their body (Dr. Fenton). Hence when I offered myself before the Commission to give evidence as to the government of the hospital I was asked no questions. I must not trespass any further on your space, except to note that these statements are fully confirmed by the report of the Commission and show that the faults of omission lay with the lay members of the board.—I am, Sirs, yours faithfully,

WILLIAM TRAVERS, M.D., F.R.C.S.Eng.

Phillimore-gardens, W., Aug. 28th, 1894.

To the Editors of THE LANCET.

SIRS,—Will you kindly permit me to trespass upon your space to make an explanation as to my work at the Chelsea Hospital for Women during 1893. I claim that I was able to "reduce the risk of such operations" as it fell to my lot to perform "to an extremely low figure." They were sixty-five in number. There were two deaths: one following a hysterectomy for a large fibro-cystic tumour complicated by aortic incompetence, the patient dying of syncope on the fourth day, with a maximum temperature of 100·4°; the other ensued in a case in which I set out to remove what I believed to be a multilocular ovarian tumour which proved to be a malignant mass involving both the broad ligaments and ovaries and the whole pelvic floor. There was also a secondary deposit in the transverse colon. I was able only to remove the upper portion of the mass, which was cystic, and make such a stump as was possible under the circumstances and bring it out of the wound. The patient died thirty-four hours afterwards, with a rapidly rising temperature. I performed successfully seven complete ovariotomies, all the patients recovering without high temperatures. One further case of broad ligament cyst I was unable to remove, as the patient was so collapsed after section on the table; she made, however, a very easy and rapid recovery from the

abdominal section and is alive to this day. This has been classed as one of the "exploratory incisions," although it might with perfect justice be described as an incomplete operation. In four cases I removed diseased ovaries and their appendages without a death. I also performed four ventro-fixations of the uterus without a death, and with no rise of temperature or other symptom to cause anxiety. Two other cases of abdominal section, coming under none of these heads, made capital recoveries. If such results as these could be obtained, where was the necessity to stop operating or to ask for the closure of the hospital? By referring to Questions 523, 548, 553, and 554 in the evidence taken by the Commission it will be seen that it was admitted that "there was no fault to find with my cases." The Commission, when making their inquiries, did not limit themselves merely to the death-rate of each individual of the late staff, but took special note as to whether septic temperatures did or did not prevail amongst the cases recovering. Moreover, they most carefully investigated the reasons which might be adduced for the various operations performed. In these reports they spoke in very plain terms as to the exploratory operations and as to the deaths following curetting. It is to be regretted that so strong a Commission stopped short at apportioning the responsibility. From a question asked by Mr. Stuart in the House of Commons it appears that there is a misapprehension abroad as to the number of the members of the late staff who have been reappointed. Owing to the reduction in the number of beds the new staff consists of six gentlemen only. The late staff numbered ten, and of these four have been re-elected.—I am, Sirs, yours faithfully,

W. H. FENTON, M.D., M.A.

George-street, Hanover-square, Sept. 1st, 1894.

To the Editors of THE LANCET.

SIRS,—It is with surprise and regret that I see a paragraph in the lay papers of this morning, announcing my appointment as senior physician to the Chelsea Hospital for Women. I wish to state that it appears entirely without my knowledge or consent. Obviously all (or none) of the appointments should have been inserted. By finding space for this disclaimer in THE LANCET of this week you will greatly oblige me. I am, Sirs, yours faithfully,

Harley-street, Sept. 4th, 1894. WILLIAM DUNCAN.

To the Editors of THE LANCET.

SIRS,—As a representative organ of the medical profession, and in sympathy with those late members of the medical staff of this hospital who, not having been re-elected, have had a slur cast upon them (the result of the action of Dr. Parkes), it is quite natural for you to ask why the lay managers of the hospital should not have resigned at the same time as the medical staff. I am requested, therefore, to inform you that the Board of Management *do* retire annually, being "elected year by year at the general meeting of governors," while the medical staff, under the existing laws, are appointed permanently, and that at the annual meeting of governors held a short time since the board was unanimously re-elected. Furthermore, a special meeting of governors was called by the board, and held on March 19th, "to consider the report made to the Chelsea Vestry by the medical officer of health on Feb. 6th, and to decide what action should be taken thereon"; and that it was by this action of the governors and the board that an independent committee of inquiry was constituted to investigate the charges made by Dr. Parkes.

At the earliest possible date after the receipt of this report a further special meeting of governors was convened "to receive the report of the Committee of Inquiry constituted at the special meeting of governors held on March 19th last," and upon this occasion it was resolved and carried: "That this meeting of governors of the Chelsea Hospital for Women hereby endorse the proposed action of the Board of Management in reference to the Committee of Inquiry"; and the Board was requested to proceed with the reconstitution of the medical staff without delay. Thus you will see that the board has thrice separately submitted itself and its doings to the governors of the hospital during the crisis—they, after all, are better able to judge of the true facts and circumstances than daily newspaper reporters. In this connexion I would remind you that when Mr. Stewart, M.P., who is responsible for the *Star* newspaper, asked a question in the House of Commons he was told, on behalf of the Home Secretary, that the newspaper reports were not accurate. The governors and subscribers had "accurate" knowledge and have dealt with the Board of Management in the way above explained.—I am, Sirs, your obedient servant,

Sept. 3rd, 1894. A. C. DAVIS, Secretary.

"THE CAVENDISH LECTURE."

To the Editors of THE LANCET.

SIRS,—I have no doubt that thousands of general practitioners like myself will have read with infinite pleasure and no little benefit the admirable Cavendish lecture by Sir W. Broadbent, reported in THE LANCET of Aug. 25th. There is one statement in it, however, which, with all deference, I submit calls for some elucidation. I refer to the statement on page 424, second column, that "the bacillus is present also in the blood." Further on Sir W. Broadbent repeats and emphasises this statement. Up to the present moment I had been under the impression that in very few of the infectious diseases of bacillary origin had this organism been demonstrated in the blood. In typhoid specimens which I examined some ten years ago (and which I have again examined to-night) the bacilli abound in the thickened margins of the ulcer, but none are to be found in the surrounding tissues, nor can I find any in the enlarged and inflamed mesenteric glands. These specimens were obtained by Mr. Walter Fowler at the London Fever Hospital and were stained by Gram's method. I had not the opportunity of examining the blood, but the fact that the bacilli could not be seen in the mesenteric glands scarcely favours the presumption that they would have been found in the blood had it been examined. Any statement by Sir W. Broadbent carries so much weight that I should not have ventured to ask for further information on this point had I not read on page 429 (second column) of the same issue another statement by Professor Kitasato, one of the greatest of living bacteriologists. There, in a preliminary notice on the bacillus of bubonic plague, he says "It is a well-known fact that so far, amongst infectious diseases produced by bacilli, only two micro-organisms have been found in the blood—viz., the bacillus of anthrax and the spirochæta of relapsing fever (we do not include the plasmodia of malaria)." To these two may now be added the bacillus of bubonic plague discovered by Professor Kitasato.

In 1884 I was able to demonstrate the presence of the bacillus anthracis in the blood to the late Mr. John Spear, who was investigating the disease amongst the tanners of Bermondsey for the Local Government Board. The blood was taken from the tissues surrounding a malignant pustule, immediately after it had been excised by Mr. Davies Colley. I have never been able to find the bacilli of any other infectious disease in the blood, and of late have had but little time to devote to the search. I think, Sirs, that in view of the divergence of opinion between Sir W. Broadbent and Professor Kitasato upon a point of considerable interest and importance you will admit it is desirable that some further information should be given, and I feel sure that no one will be more ready to give it than the distinguished author of the singularly lucid and instructive Cavendish lecture.

I am, Sirs, yours faithfully,

Stanmore, Aug. 26th, 1894. B. CAMPBELL GOWAN.

A WARNING TO RESIDENT MEDICAL OFFICERS.

To the Editors of THE LANCET.

SIRS,—A man is now going the round of the London hospitals, obtaining admission by so manipulating the thermometer that it registers 105° or higher in the axilla. At one hospital he was admitted with the history that he had fallen in the street, and with slight bleeding from the ear and from the back of the throat; at another he attempted to commit suicide; at a third he became violent and was sent to an asylum, but was released in a few days as not being insane. He is a German, fair-haired, aged about forty, and he has the scar of a recent trephining over the right side of the head. I believe that he raises the index of the thermometer either by friction between his muscles, or by simply giving the thermometer a rapid swing in the wrong direction, before he puts it under his arm. By the latter method he

leaves a vacuum between the index and the rest of the mercury. I am, Sirs, yours obediently,

Wimpole-street, Aug. 22th, 1894. STEPHEN PAGET.

A FOREIGN BODY IN THE STOMACH.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of to-day there is a very interesting case of a patient on whom gastrotomy was performed for the removal of foreign bodies from the stomach. In the Transactions of the South Indian Branch of the British Medical Association is recorded a very similar case. The patient had swallowed the fastening bolt of his prison door. It was of the usual L shape, being seven inches long and half an inch thick, the short cross-bar being an inch and a half long and pointed. As in the case recorded to-day, so in the Indian case, no injury had apparently been done to the mucous membrane of the gullet. The patient confessed to having swallowed the bolt only after he was told that his stools contained iron. The bolt was successfully removed by a gastrotomy performed by Surgeon-Major Mark Robinson, I.M.S., the patient making a good recovery.

I am, Sirs, yours faithfully,

JOHN SMYTH, M.D.,
Surgeon-Major, I.M.S.

East India United Service Club, St. James's-square, S.W., Aug. 25th, 1894.

"THE HYDERABAD CHLOROFORM COMMISSION."

To the Editors of THE LANCET.

SIRS,—Mr. Arthur H. Ward asserts :[1] "It is not possible to feel that, at present, Surgeon-Lieutenant-Colonel Lawrie has proved by experiment the truth of his thesis that chloroform is perfectly safe when the respiration alone is watched." This is not my thesis. My thesis is that chloroform is perfectly safe when the inhalation is so conducted that the respiration is not interfered with. I challenge Mr. Ward or anybody else to prove that my proposition—that the administration of chloroform is absolutely safe unless the breathing is interfered with—has not been confirmed by experiment.

I am, Sirs, yours faithfully,

EDWARD LAWRIE, Surgeon-Lieutenant-Colonel.

Hyderabad, Deccan, Aug. 15th, 1894.

ANILINE IN PHTHISIS.

To the Editors of THE LANCET.

SIRS,—For some months past I have been prescribing the sulphate of aniline to phthisical patients both in private and in hospital practice. About twenty-five years ago Dr. Turnbull of Liverpool administered this drug for the cure of chorea. He pointed out how the aniline compound, after a course of two or three days, produces a blue tinge of face and lips; and the study of his reported cases induced me to try the effects of the drug in phthisis on the supposition that it might possibly attack the bacillus *in loco*. I have been reticent in speaking of the results until I could publish a larger experience, but so far I may at once say that the amelioration of symptoms has been surprising and exceeds my anticipations. My chief object, however, in writing to you is to induce other physicians and practitioners who have extended opportunities of treating phthisical patients to prescribe and observe the effects of this remedy. I hope to place my own results before one of the medical societies at some near future date.

I am, Sirs, yours faithfully,

Seymour-street, W., Sept. 1st, 1894. SEYMOUR TAYLOR, M.D.

STAMMERING AND ITS TREATMENT.

To the Editors of THE LANCET.

SIRS,—The following suggestions may prove useful to some of your readers. The perfect ease and fluency with which the worst stammerer I ever encountered could recite long poems first suggested to me, before I commenced my professional studies, the essential element in the relief of this distressing affection—viz., that the sufferer should have clearly and distinctly formulated in his mind—i.e., should have off by heart what he is going to say before beginning to speak. Each sentence, then, should be completely formed, and should be short, so that this may be more easily done before its utterance is commenced, and the delivery should be slow. Looking away from the person addressed will be a help, as thereby the mind is more completely centred. Any particular words, the articulation of which is found difficult, should be practised until mastered. Daily reading aloud to himself, or herself, and, when confidence has been sufficiently restored, to others, is also useful. As the complaint is nervous in origin, every means by which the nerves may be strengthened and the general health promoted, such as nervine tonics, sea-bathing, plenty of exercise in pure fresh air, and wholesome and palatable, without being too rich, food should be employed. Alcoholic stimulants and tobacco, if not entirely abstained from, must be very sparingly indulged in. This method has in my hands proved perfectly successful, but the patient must not be discouraged by the improvement being slow at first.

I am, Sirs, yours faithfully,

Leeds, Sept. 1st, 1894. PHILIP FOSTER, M.D.

[1] THE LANCET, July 28th, 1894.

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—Absence from home has prevented my noticing an error in the reporting of what I said at the meeting of the British Medical Association. During the discussion on perforating ulcer of the stomach[1] my three cases of operation are stated to have been fatal. As a fact, one patient recovered and two died.—I am, Sirs, yours faithfully,

Carlisle, Sept. 4th, 1894. RODERICK MACLAREN.

CONSULTANTS' DIFFICULTIES.

To the Editors of THE LANCET.

SIRS,—Mrs. M—— this morning called upon me with her daughter to consult me about an ailment concerning which she had been brought to me in 1889 by Dr. C——. She said she had left his neighbourhood and was no longer under his care. I declined to attend under any other condition than that of sending my prescription and instructions in the first place to Dr. C——. Mrs. M—— refused to agree to this, and our interview ended. Did I unduly strain the relation of consultant to general practitioner in my endeavour to carry out what I consider to be the right mode of action?

On a recent occasion a gentleman consulted me on the recommendation of his mother's medical adviser, Dr. S——. I gave him a note and prescription to convey to Dr. S——. A few days later I received a letter from Dr. K—— saying that the gentleman, *his* patient, had brought him my letter to Dr. S——. I wrote to him, stating that the patient had come to me through Dr. S——, and that I could only correspond with Dr. S—— about him. I afterwards ascertained that Dr. S—— had handed my note to the patient to give to his usual attendant, Dr. K——, Dr. S—— having no intention of making me a means of transferring another practitioner's patient to himself. I understand that Dr. K—— rather resents my proceeding, and in order to avoid such untoward results I am anxious to elicit from you, Sirs, an opinion as to the best line of conduct to pursue under similar circumstances. In the first case, I have no doubt lost a patient; in the second, the goodwill of a general practitioner. As one who looks to the profession rather than to the public, I am anxious to have your guidance in these two cases, which are fairly typical of the difficulties besetting one who strives to act as A LOYAL CONSULTANT.

Aug. 27th, 1894.

*** We gladly insert the above letter. Would that "Loyal Consultants" were more numerous. The lengths to which some consultants go—even very honourable men—in seeing the patients of practitioners whom they know to be both honourable and reasonable men is surprising. The subject is too large and important a one to be disposed of in a note to a letter; but it is one worthy of the attention of both branches of the profession. It is the duty of the consultant in every case to suggest writing to the medical man in actual

[1] THE LANCET, Aug. 4th, 1894

attendance on the patient. There are circumstances in which it may be reasonable not to press this course; but it is the normal one, and should always be proposed by the consultant.—ED. L.

"THE MEDICAL PROFESSION AND THE 'STORES' SYSTEM."

To the Editors of THE LANCET.

SIRS,—I feel called upon to make some remarks on the article which appeared in THE LANCET of Aug. 25th under the above heading, because if I am not the individual actually referred to as "Oculist" I bear a very striking resemblance to him. My observations would apply solely to that part of your article that deals with "oculists," and I wish it to be understood that I neither express nor imply any opinion upon the other matters dealt with, and which, I understand, apply to another association. You say that such an "arrangement" as you believe to exist is both objectionable and unnecessary. Two objections are pointed out:—(*a*) That it involves advertisement of the names of practitioners and their being sent promiscuously to the patients of other practitioners. As neither the name nor the fee can be ascertained except upon inquiry this objection falls to the ground. (*b*) "The tendency of such arrangements is to attract shabby or ungenerous persons who wish to pay less than they can afford." It is apparently your opinion that it is the duty of patients to pay as much as they can afford; but let that pass. I am no advocate for "arrangements" by which a medical man pays a visit for about the same fee as the dustman, but I do not see how the objection applies when the fee is one which will nearly always be accepted if "circumstances" are pleaded—one which is universal except at a first visit, and one which till a few years ago was usual even for a first visit, and is still believed to be so by some patients. It is said that such an arrangement is unnecessary. In exact proportion as it is unnecessary it will be inoperative. The necessity has, however, arisen, and will arise again. Members go to the "Stores" for glasses, not, as a rule, because they are "shabby or ungenerous," but because they honestly believe that testing for glasses is a mechanical process which can be carried out by an optician; and it must be admitted that in the majority of adult patients the optician obtains results which are alarmingly accurate. If the business is to be conducted honestly, patients must frequently be told that they must get a prescription. The Association wishes to have one or more names of surgeons whom they believe to be reliable, to whom they may refer such patients as desire it. The wish seems to me to be a perfectly legitimate one on the part of the Association, and one which can be honourably met on the part of the surgeon. Such patients have too frequently in the past gone to the nearest hospital. There are two more points on which I must touch. A prescription form is referred to as if it were the property of the "oculist." This is misleading; it is merely a blank form for prescribing glasses, and the name and address of the surgeon are detachable; it forms no part of the prescription, and is only to be given when asked for. Lastly, the paragraph in the "programme" which is quoted in full. Some announcement to members of a new arrangement was thought necessary. The paragraph was not meant to attract the "shabby and ungenerous" public. It is intended to apply only to refraction cases, and not to "professional advice" in any wider sense, hence the use of the term "oculist." But it evidently might be taken to mean more than it does, and it might encourage patients to go to the "Stores" for their glasses in the first instance. For these reasons neither this nor any similar paragraph will appear in future editions, as long as the present writer has any connexion with the "Association."—I am, Sirs, yours truly,

Aug. 28th, 1894. "OCULIST."

NOTIFICATION AND PROFESSIONAL COURTESY.

To the Editors of THE LANCET.

SIRS,—I would like to trouble you for advice on the following matter. I was attending a case of scarlet fever. The Infectious Disease Notification Act being in force in this district, I reported the case in proper manner to the medical officer of health, who, from the time of his first visit, attended the case and has continued his visits, so that I have not since seen my patient. I wrote to the lady of the house for an explanation, and she informed me that the medical officer of health told her as he was leaving that he would come again on the morrow. She expressed her astonishment at the necessity of a second visit from him, but thought it was part of his duties as medical officer of health; consequently he had made one or two visits before she discovered how matters stood. She states in a letter to me that she did not send for or ask this medical officer of health to attend her daughter, and that the only intimation of illness at her house which he had received was the notice I had sent to him myself. The questions I wish to put may be of interest and importance to many practitioners who are in districts where the Infectious Diseases' Notification Act is made law. Is a man bound to report to the sanitary authorities an infectious case when he runs such a risk of having his case taken from him by one of their officers? Is it not generally understood that the medical practitioner who reports a case is in attendance on that case? Is a medical officer of health overstepping his duties when he examines and prescribes for a patient after receiving a notice from the practitioner in attendance and without the latter's presence? What redress can a medical practitioner claim for the loss of a patient under such circumstances, and before whom should he place his grievances? I am of opinion that such affairs are a perfect nuisance to medical practitioners, and it comes very hard on them because a certain law compels them to make a report to another man of an illness at a certain house, which induces that man to take the case out of their hands. Is the sanitary board responsible for such behaviour of their medical officer of health? I would suggest that the Local Government Board regulations might be reformed with advantage, for I do not think that in this age of sanitary science men in general practice are the proper persons to be appointed medical officers of health; and, again, families not infrequently change their medical attendant, and it must become very irksome to medical officers of health when they have to visit, on the report of another man, a house they were in the habit of attending formerly, and just as disagreeable for the man who has to make the report. I am sure that if some alterations in the rules were instituted it would prevent many such unpleasant circumstances as I have related. I am, Sirs, yours faithfully,

GENERAL PRACTITIONER.

DEATHS UNDER CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—The cases of death under chloroform which have been recently recorded, and others which have recently occurred but have not been recorded suggest the question—Why was chloroform given? They were all patients who could have taken ether quite readily, yet chloroform was preferred with fatal result. Chloroform is the anæsthetic liked by the patient, and it is easier for the surgeon to give, but the fact remains that it is very fatal and that no amount of auscultation of the chest or other investigation will give information which will enable anyone to say whether the patient will take it safely or not. There are some cases for which chloroform is the only anæsthetic that can be used, but for all ordinary cases ether should be given. The surgeon who deliberately gives chloroform instead of ether and loses his patient exposes himself, in my mind, to the charge of manslaughter, unless able to give very good reason for his choice of the anæsthetic. The one is safe, the other is not. No one can gainsay this. A common sense rule to make in all our hospitals would be one to compel the anæsthetist to give ether only without the express permission of the surgeon in charge of the patient. There would be fewer deaths.

I am, Sirs, yours faithfully,

Sept. 5th, 1894. A HOSPITAL SURGEON.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Proposed Crematorium.

WHATEVER diversities of opinion may exist as to the propriety of cremation as a mode of disposal of the dead, there can be no doubt that it is favourably regarded by a

very large number of persons in this city and neighbourhood. When Sir Henry Thompson's papers were published twenty years ago the suggestion was favourably received by many persons here, and slowly but surely an association has been formed, land has been acquired, and all arrangements have been completed for the formation of a crematorium. At the laying of the foundation stone Mr. Alfred Holt, the chairman of the Association, made a speech which must have commended itself to all who heard or read it for its moderate and conciliatory tone. He carefully avoided any remarks which might be offensive to those who prefer burial to cremation, and he advocated that which has been suggested in THE LANCET—viz., that burial and cremation should have a fair trial side by side. With regard to the medico-legal objection, he observed how extremely improbable it was that any person who had committed murder by poison or otherwise would court such a very searching inquiry as is always required before cremation is performed. This is true, since past experience has shown how easily an independent observer might notice what had escaped the medical attendant and registrar; but this same experience is a warning to the advocates of cremation not to let their independent inquiry relax into a mere formality, which is only too probable if cremation grows in public favour.

The Precautions against the Importation of Cholera.

Dr. Hope, the medical officer of health, is taking every precaution to prevent the entrance into this city of any cases of cholera either by sea or overland, and to ensure the prompt isolation of any such case or cases should they arrive in the river or overland. For it must not be forgotten that Liverpool is visited frequently by emigrants landing at Hull and elsewhere on the east coast, which is very open to the importation of cholera from the Continent. Hence any case which might escape the vigilance of sanitary authorities there might be imported by rail to Liverpool. It is necessary, therefore, to maintain a vigilant care over railway stations as well as on the river.

The State of the Police-court.

The present police buildings containing the various police-courts, the coroner's courts, the head constable's and other offices incidental to a large police force were completed in 1860. At that time the population was considerably less than it is at present, and the police force then numbered little more than half that which it does now. Even so soon as eight years after the erection of these buildings the police-court became so foul that the late Mr. Raffles, then stipendiary magistrate, had a very serious illness, directly the result of the polluted state of the air in which he sat daily for several hours together, from which illness he did not recover till after some months of rest and change of air. Partly from what are now seen to be radical defects of construction and partly from the increased amount of business transacted in these courts the atmosphere in all is bad, most especially in the First Court, where the stipendiary sits. From time to time efforts have been made to improve the ventilation, but apparently to no purpose, the air being as foul as ever. It will be remembered that a late lamented judge lost his life some years ago owing to the foul state of the air in one of the metropolitan courts. It is to be hoped that it will not require a victim or victims in the persons of any of those who have to attend and sit in the First Police-court daily before something is done to effect a remedy. Those who are most competent to judge assert that the present court is structurally bad and incapable of improvement, the only remedy being a new court. One should, therefore, be provided without loss of time, since it is surely only reasonable to ask that police-courts and other public buildings to which persons of all classes must go should not be unwholesome.

The new Post-office and the Royal Visit.

For a longer time even than that during which complaints have been made of the police-court, have complaints been made of the chief post-office. Though the formation of district offices some years ago relieved the pressure to some extent, and though thousands of pounds have been spent in improvements, a new chief post-office has been required for many years, and will in a few years be an accomplished fact. It may be doubted whether the Duke of York and his amiable spouse will ever inaugurate a more imperatively needed work than that which they will inaugurate next Monday. The truth is that in such rapidly growing towns and cities as Liverpool, Manchester, Glasgow, &c., all public buildings must be constructed with a keen eye to the future as well as to the present. For want of this the anomaly has prevailed of Government officials being housed in a building which Government inspectors in another department would condemn *in toto*.

The Site of Kirkdale Gaol.

It is very satisfactory to notice that the site of the disused gaol of Kirkdale (for many years the county gaol) has been acquired by the City Council. The gain is both positive and negative, positive because the inhabitants of a very crowded part of the city will have an open space in their midst, the sanitary value of which cannot be estimated by the price paid, £17,650. The negative gain is that this valuable site will not become the property of the speculative builder or be covered with small property inhabited by additional dwellers in a district already sufficiently populated.

Sept. 3rd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Workhouse Nursing at Oldham.

OUT of evil good may come. The attention of Parliament has been called to the Oldham case, and the question of workhouse nursing seems to be arousing general interest. The subject of the late suicide and the case of accidental poisoning were discussed at a recent meeting of the guardians, and a letter was read from the medical officer, Dr. Young, urging a reorganisation of the nursing arrangements of the Infirmary. He said that too many beds were allotted to one nurse, so that during the day patients could not have proper attention, and "at night one nurse is quite insufficient for the whole." There is no provision for cases requiring extra nursing, or for the temporary illness or disablement of a nurse. "There is no responsible head, no means of maintaining discipline amongst the nurses or of ascertaining whether their duties are properly discharged during the absence of the medical officer." He recommended certain changes and an increase in the number of night nurses &c. Mr. Jenner Fust, the Poor-law inspector, who was present, said he was anxious to emphasise the recommendations of the medical officer. In the face of these recommendations and of the recent occurrences one of the guardians thought they had already increased the nursing staff sufficiently, and moved "that the whole question be relegated to the Investigation Committee." Another guardian protested against the impression "that the Board was not capable of properly conducting the affairs of that institution." It would appear, therefore, that some of the guardians of Oldham have not yet realised the weight of their responsibilities.

Swimming for Pauper Children.

The Manchester Board of Guardians may claim to be more advanced in some things than the Islington board. At the last meeting the chairman said a paragraph had appeared in a local paper, headed "An innovation deserving of imitation," to the effect that the Islington Guardians had accepted an offer to teach swimming to the pauper children free of charge. Swimming, he said, had been taught to the children under their care at the Swinton schools for a dozen years, and one of the guardians stated that these children "were exceedingly clever swimmers, and that the girls were as proficient, if not more so, than the boys." In many ways this must be of great benefit, and it might with advantage be adopted in all schools.

The Salford Hospital and M. Pasteur.

The writer of a letter to the *Manchester Guardian* has raised a somewhat curious question. A case was reported in its columns to have been "sent to Paris, for treatment by Pasteur, by the committee of the Salford Hospital," and further, that "the expenses, which will be considerable, are to be paid out of the funds of the hospital." The writer says: "When people subscribe to an hospital they do so upon the understanding that their money goes to support the treatment of patients in that hospital by the medical staff"; and he thinks subscribers may reasonably object to the recent proceeding. If patients are to be sent to M. Pasteur he considers that a special fund should be raised, to which, however, he would not subscribe, having no faith in the treatment. This gentleman, by the way, is perfectly sincere, but prominent among our local anti-vivisectionists.

Levenshulme Local Board.

The Levenshulme Local Board was incorrectly reported to have adopted the Notification of Diseases Act. The medical officer of health, Mr. Edlin, has written to the *City News* to correct this misstatement. He says: "It was the Infectious Diseases Prevention Act they agreed to adopt, and by an indirect vote they repeated their decision not to adopt the Notification Act." This is to be regretted, but it is to be hoped that before very long the board will act with the wisdom prematurely ascribed to it.

Health of Manchester.

The threatened epidemic of small-pox has apparently passed away:—One or two cases only occurring in a week, while for several previous weeks the average was nine. No death was registered as due to the disease. The other notifiable infectious diseases—scarlet fever, diphtheria, and enteric fever—are also somewhat less prevalent than usual.

Cottage Homes for Workhouse Children.

The Chorlton guardians have arranged for the purchase of an estate at Wilmslow, 192½ acres in extent, at a cost of £20,000, for the erection of cottage homes and schools. This seems an admirable proceeding. The chairman said: "When they had their new schools and houses they would be able to remove the children away from the demoralising influences which must always be associated with the workhouse." The plan of bringing up—one may almost say, of herding together—masses of children in barrack schools, the majority of the children being able only to claim the most degrading and unhappy origin, and knowing of nothing but squalor and the borderland of crime, is a sure means of perpetuating the professional and hereditary pauper; while the breaking up of them into groups or quasi-families, and thus making possible the individual care and interest which can alone bring out their better feelings and affections, will give these poor waifs a chance of rising to a higher moral and social level.

Sept. 4th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Carlisle: The Sewerage Question.

THE pollution of the river Eden at Carlisle by the city sewerage has become a prominent question in the border city. Some time ago the corporation went to an expense of £2000 for screens to arrest the grosser impurities carried by the sewers; this was at all events an apparent improvement as the river was not so offensive to the eye, but still, in the opinion of many, including, as has appeared, the Local Government Board, the system of screening has been inadequate to remove the evils so long complained of. The city sanitary authority having applied to the Local Government Board for means to complete their system of screens &c., the latter have pointedly refused and ask the corporation to prepare some comprehensive scheme for the purification of the sewage by some efficient method which should include the application of the sewage to a sufficient area of suitable land.

The late Mr. S. E. Piper, F.R.C.S., of Darlington.

Among the death notices in THE LANCET of Sept. 1st is that of Mr. S. E. Piper at the ripe age of eighty-one, at Darlington, where he had practised since 1841. Mr. Piper was a native of Ipswich, where he served his time, as was the custom, but completed his medical education at University College, London, though he has often told the writer of these notes that he saw and learnt more surgery on the battlefields of Spain than in all the schools. In the year 1836 he joined the 2nd Lancers, a regiment commanded by Sir de Lacy Evans, and took part in the campaign of the Queen of Spain against Don Carlos, sustaining in it a severe bullet wound in the chest; recovering, he returned to England, and finally settled at Darlington, which, although a very different town to what it is now, was still in a way a surgical centre for a large district and possessed such surgeons as Strother, Haslewood Jackson, and others. Mr. Piper soon made his way and acquired a large and high-class practice, which he retained as long as he was able to work it. He was highly respected by all. The last few years told upon him and hastened his gradual decline, and this fine old surgeon passed away peacefully on the 24th ult.

Professor Philipson.

I have had an opportunity of seeing a capital autotype reproduction of Mr. C. Kay Robertson's portrait of Professor Philipson, which is published by Messrs. Mawson, Swan, and Morgan of this city, the same firm which published a striking portrait of the late Dr. George Heath. The new portrait ought to be also popular, as it is a capital likeness and is published at a moderate price.

The Ingham Infirmary, South Shields, has received intimation of a legacy left by the late Mrs. Mary Hunter, of "The Lawn," of £100; Mrs. Hunter, in addition, named the institution as one of her two residuary legatees, as also of a legacy of £500 from the late Mrs. Perry of Harton.

The Harrogate Hospital has received a legacy of £4000, free of duty, for its building fund, from the executors of the late Mr. Lupton Wright Dawson of Baildon.

Newcastle-on-Tyne, Sept. 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

The Edinburgh Royal Infirmary and Labour Representation.

AT the meeting of the managers of the Edinburgh Royal Infirmary on the 27th ult. the following letter was read and approved: "The managers of the Royal Infirmary have carefully considered the petition forwarded on behalf of the Edinburgh and District United Trades and Labour Council, craving that they take steps to have certain alterations made in the charter of the institution, whereby trade and other associations would be entitled to send delegates to the annual meeting of contributors. Whilst anxious to see the working classes represented on the Court of Contributors, they regret to have to point out that the qualification for being a member of the Corporation is laid down by Act of Parliament and cannot be altered except by an amending statute. The managers do not regard themselves as justified at the present in incurring the expenses of promoting a Bill in Parliament for the sole purpose of effecting the suggested alterations." This letter speaks for itself. It may, however, be noted that anyone contributing a guinea a year is, if I am not mistaken, entitled to vote at a meeting of contributors; so, if trade or other associations have any special proposals to make for the management of the Infirmary, they might surely arrange to have that done by some trusted member of their body without putting the Infirmary to the expense of an Act of Parliament for the purpose.

Aug. 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Dublin.

THE fresh cases of small-pox are not very numerous at present. During the week ending Aug. 25th there were six deaths recorded from small-pox, of which two were those of vaccinated persons. The total number of deaths from the time the outbreak commenced until the 25th ult. amounted to twelve. The outbreak of small-pox has shown unmistakably that vaccination in Dublin, more particularly in the northern side of the city, has not been carried out as it should have been. For example, one medical officer stated that during the previous fortnight he had 594 cases of primary vaccination, of whom only 88 were under one year. The relieving officers are paid £10 a year each for reporting cases of children not having been vaccinated, but they are not paid by results. A committee has been appointed by the North Dublin Union Guardians to see whether some better means of causing children to be vaccinated could not be devised in order to more effectively carry out the requirements of the Vaccination Act. The Local Government Board have requested the guardians to follow the course adopted in 1871 by the guardians of both unions, of including a convalescent department, in order that patients who were recovering should not return to their homes until all danger of communicating the disease to their families should have passed.

Longevity.

Among the deaths registered in Ireland during the June

quarter were those of thirteen centenarians—viz., there were five deaths at 100 years and two each at 101, 102, 103, and 104 years respectively.

Health of Dublin.

During the five weeks ending Aug. 4th the deaths from zymotic diseases amounted to 62, 2 of which were due to small-pox. As compared with the previous month there was a considerable decrease in the deaths from whooping-cough and typhoid fever, while diarrhœa was much more fatal than in any previous month this year. The death-rate from all causes was 2·96 below the average for the corresponding period of the previous ten years, while the zymotic death-rate was exactly 50 per cent. below the average; 2 deaths were caused by small-pox and 13 cases of this disease were notified. Every effort, Sir C. Cameron states in his report, has been made to prevent small-pox from spreading.

Irish Coroners' Association

A meeting of Irish coroners was held on the 30th ult. in the Gresham Hotel, Dublin, for the purpose of considering the formation of an Irish Coroners' Association. The meeting, which was well attended, appointed Mr. H. L. Harty, coroner for Dublin Southern District, to be the first president of the association. Vice-presidents, an executive committee, a Parliamentary committee, and a law committee were also appointed. A letter was received from the secretary of the English Coroners' Society wishing the association every prosperity and suggesting that a subcommittee from the association be appointed to confer with the English society on all matters in connexion with coroners. The following resolution was adopted: "That we, the members of the Irish Coroners' Association, hereby cordially express our hearty appreciation of the fraternal response of the English Coroners' Society to our desire for coöperation with them for the purpose of protecting and improving the position of coroners generally. That for the present the Parliamentary and law committees be appointed a committee to act in conjunction with the English Coroners' Society in all matters relating to coroners. Further, that the best thanks of the association be given to Mr. A. Braxton Hicks, coroner, Surrey, hon. secretary of the English Coroners' Society, for the valuable assistance so kindly given by him to their hon. secretary, Mr. E. S. Finnigan, in the organisation of this association." The members of the association afterwards dined together at the Gresham Hotel.

Lunacy in Ireland.

The inspectors of lunatics in Ireland have just issued their forty-third report. It appears that there was official cognisance on Jan. 1st of 642 lunatics maintained out of private funds, 16,478 supported either in district asylums or workhouses, while 156 in the criminal asylum were charged to the expense of the State. The inspectors think that the alleged increase of insanity in Ireland is mainly due to accumulation, and that it is so far an apparent, not a real, increase; that the yearly increase of admissions is drawn in a considerate proportion of the cases from the reserve of unregistered insane existing throughout the country; that the annual increase in the face of a shrinking population of the number of first admissions, including, as it does, such a large proportion of first attacks of insanity, almost irresistibly points to some increase of recurring insanity in particular districts; and that the main factors which contribute to the development of recurring insanity in Ireland might be classed as hereditary, from consanguineous marriages among those having any tendency to nervous disease, the innutritious dietary of the poorer population, the immoderate use of certain stimulants, and the acute agricultural depression and dislocation so widely experienced in recent years, and the great mental strain and harassing anxieties that have followed in their wake. The inspectors say that the condition of the insane in workhouses is far from satisfactory, and they think that where the lunatic inmates of these wards manifest symptoms that render them obnoxious to others, or where they are so helpless as to need individual care, the lunatic wards of the workhouses as at present constituted do not provide suitable accommodation for them.

Hospital Saturday.

The collection on Saturday, Sept. 1st, amounted to nearly £400, which is an increase on last year.

New Infirmary for Co. Tyrone.

I understand that it is arranged to build a new infirmary in Omagh. A meeting was held there on Aug. 20th, presided over by the High Sheriff, and at which the Duchess of Abercorn, Lord Belmore, and others were present. Dr. E. C. Thompson, surgeon to the infirmary, said that subscriptions amounting to £2000 had already been promised. An influential committee was appointed to select a site and make other necessary arrangements.

The Belfast Royal Hospital.

At the quarterly meeting held on Aug. 27th it was reported that up to the end of July the receipts were £1423 14*s.* 10*d.* in excess of the expenditure. During the past quarter there were 547 intern patients treated, and 5818 extern cases. Professor Whitla and Dr. O'Neill were reappointed attending physician and surgeon. I understand that Mrs. Dunville has, through Professor Byers, intimated her intention of refurnishing the operation-room used in connexion with the special wards for diseases of women. A few years ago, through her munificence, the extern rooms in the women's department were handsomely fitted up and furnished.

Death of Mr. William Lee, M.B., B.Ch., B.A.O.

Unusual regret is felt amongst a wide circle of friends at the premature death of Dr. W. Lee, which took place at the residence of his father, Mr. James Lee, J.P., Belfast, on Aug. 26th, at the early age of twenty-five years. Educated at the Royal Academical Institution and at Queen's College, Belfast, Dr. Lee was an unusually able student, and owing to his geniality and amiability he was a great favourite. He took a keen interest in athletics, and for the college he played for three years in the first football fifteen. For some time after graduating in the Royal University Dr. Lee practised in England, and subsequently was appointed one of the resident medical officers in the Belfast Union Infirmary. He was attacked with influenza some time ago, and lung complications set in, from which he subsequently died. Great sympathy is felt for Dr. Lee's father, one of the best-known men in Belfast, in his severe trial.

Sept. 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

May Medical Men practising in France dispense Medicines?

In accordance with your request I wended my way to the École de Pharmacie, there to procure exact information on this point. The new law regulating the practice of medicine came into force on Dec. 1st, 1893, but Clause 11, which dealt with the question referred to, was relegated to the corresponding law, then in preparation by a Commission, on the practice of pharmacy. The clause was as follows (it having been previously laid down that the simultaneous practising of medicine, dentistry, or midwifery—*sage-femmes*—and pharmacy was interdicted): "Toutefois, sous la condition de se soumettre aux lois et réglements qui régissent l'exercice de la pharmacie à l'exception de la patente, tous les médecins peuvent porter des médicaments à leurs malades si les malades habitent à quatre kilomètres au moins d'une officine de pharmacien. Sous les mêmes conditions, et sans avoir le droit de tenir officine ouverte, les médecins qui habitent à quatre kilomètres au moins d'une officine peuvent aussi fournir les médicaments à leurs clients." Now it appears that druggists wish to see even what I may call these "desert" practitioners deprived of the privilege of supplying drugs to their patients. Certain it is that the new law affecting druggists has gone dragging its weary length along and has not yet been passed. Until the law comes into operation medical men are bound by Clause 27 of the "Loi, 21 Germinal, an XI." It will be noticed that the only practitioners mentioned in this clause are *officiers de santé*. The *officiat de santé*—an inferior grade—was created just about that time in order to supply the peasantry with medical advice. I may remind the readers of THE LANCET that the diploma of *officier de santé* has now been abolished, regard only being had to vested interests. Clause 27 is as follows: "Les officiers de santé, établis dans les bourgs, villages, ou communes où il n'y aurait pas de pharmaciens ayant officine ouverte ('open shop') pourront fournir les médicaments simples ou composés aux personnes près desquelles ils seront appelés, mais sans avoir le droit de tenir une officine ouverte." In conclusion I may state that the new Pharmacy Law is expected to pass when the Parliament reassembles.

Infant Feeding in France.

The Direction de l'Hygiène Publique has just issued a circular to the prefects of departments calling upon them to forbid absolutely the employment, not only of metal feeding-bottles, but also of bottles provided with tubes, which, thanks to the continued approbation of medical inspectors of "baby farms," remain still in vogue. Nurses are also forbidden to give solid food to infants under one year unless they can show a written prescription to that effect emanating from a medical man. Very sensible rules.

The Consumption of Alcohol in French Towns.

A report just issued by the Minister of Finance enlightens us on the habits respecting alcohol of the inhabitants of forty-seven French towns having a population of over 30,000. It will be seen that the capital occupies in the list the honourable position of Number 18. The list is as follows:—1, Cherbourg, 18·3 litres per head; 2, Rouen, 16·8; 3, Havre, 16·2; 4, Caen, 15·8; 5, Boulogne-sur Mer, 12; 6, Amiens, 11·6; 7, Lorient, 11; 8, Brest, 10·8; 9, Le Mans, 10·3; 10, Versailles, 9·8; 11, St. Quentin, 9·6; 12, Toulon, 9; 13, Dunkerque, 8·7; 14, Reims 8·3; 15, Rennes, 8·1; 16, Marseilles and Besançon, 7·3; 17, Lille and Roubaix, 7·2; 18, Paris, 7; 19, St. Denis, 6·9; 20, Angers, Tourcoing, Grenoble, and Levallois-Perret, 6·8; 21, Clichy, 6·6; 22, Troyes, 6·5; 23, Dijon, Orléans, and Calais, 6·2; 24, Cette, 5·9; 25, Nantes, 5·8; 26, Lyon, Nancy, Tours, and Avignon, 5·5; 27, Clermont-Ferrand, 5·2; 28, Bordeaux, 5; 29, Limoges, 4·7; 30, Bourges, 4·6; 31, Nice, 4·4; 32, St. Etienne, 4·3; 33, Nimes, 4; 34, Montpelier, 3·8; 35, Toulouse, 3·2; and 36, Béziers, 1·4.

Medical Sculpture.

Dr. Paul Richer, the director of the Salpêtrière laboratory, has been recently engaged in enriching that renowned neurological school with a series of heads and busts reproducing certain types of pathological deformities. In the last number of the *Iconographie de la Salpêtrière* there appears the photograph of one of these busts, representing a subject affected with primary progressive myopathy. This patient was frequently shown by the late regretted Professor Charcot at his cliniques as a perfect example of the myopathic physiognomy of the Landouzy-Déjerine type.

Aug. 28th.

Obituary.

FREDERICK DUNN, M.R.C.S. ENG., L.S.A.

UNDER sad and painful circumstances the death is announced of Mr. F. Dunn, a surgeon widely respected and highly esteemed by a large circle of friends in the town and district of Wolverhampton, where he had practised for about thirty-five years. The deceased gentleman, who was in his fifty-ninth year, went on Saturday, Sept. 1st, to Molineux Grounds with two of his sons to witness the first National League Competition football match between the Wolverhampton Wanderers and Preston North End clubs. When on the field he spoke to several friends, and, in reply to inquiries as to his health, he said he was quite well. In the crowd of spectators one of his sons was pushed down, and Mr. Dunn remonstrated with a bystander whom he considered to be the cause of the mishap, and in doing so became somewhat agitated. This for a few moments temporarily distracted Mr. Dunn's attention from the game, but just as he was again concentrating his attention upon the players he suddenly, and without exclamation, fell back. A local practitioner who happened to be on the field hastened to Mr. Dunn's assistance, but the deceased had already passed away when he arrived. Death was due to failure of the heart's action brought about by excitement, and by distension of the stomach, which contained a full meal. Mr. Dunn was himself an athlete of powerful physique, a member of the Wolverhampton gymnasium, and a warm patron of the football club. One of the oldest established medical men in the town, he succeeded his father more than thirty years ago as one of the medical officers of the Wolverhampton Union, a position he did not relinquish until after twenty years' service. At the time of his death he had a considerable private practice and was medical officer to the Great Western Railway and likewise to the Wolverhampton Post-office and its outlying branches. He was also medical referee for several friendly societies, besides being connected with miners' organisations. Always popular and highly esteemed, his loss is much felt both in professional and lay circles, and hearty sympathy is expressed with his widow and eight children.

THE EIGHTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

THE Eighth International Congress of Hygiene and Demography was formally opened on Sunday, Sept. 2nd, at Budapest by the Archduke Charles Louis of Austria in the presence of the Chief Burgomaster of Hungary and other dignitaries, civil, social, and political.

Though this Congress is meeting so far away from most of the greater centres of European population, yet it will probably be the largest held. Before Aug. 15th more than 1200 members had already paid their subscriptions, and the president of the organising committee, Professor Fodor, has informed one of our correspondents that about 2500 subscriptions had been received by the beginning of this week, exclusively of some 500 honorary members.

On Saturday evening, Sept. 1st, a great number of delegates were entertained at the National Museum. There was quite a crowd of hygienists hailing from all countries, and many interchanges of cordial greeting took place on the occasion, and many old friendships were renewed. His Excellency, Herr Charles Hieronymi, the President of the Congress, was present, and was introduced to many of the delegates.

On the morning of the same day the semi-official lithographic sheet, the *Pest Correspondent*, published in French a welcome to all the members of the Congress, addressing them as "two thousand representatives of the most pacific sciences." The *Pest Correspondent* expressed the hope that the foreign delegates present would see that the Hungarian Government was labouring earnestly to favour the cause of civilisation, as represented by sanitation, without distinction of race or religion, and that within the kingdom of Hungary full constitutional freedom and equality of rights were enjoyed, so that science, unfettered, could here find a home where it might freely pursue its great humanitarian mission. The *Pesti-Napló* also bade the members welcome by publishing in six languages an enthusiastic greeting to all the foreign delegates, and several other newspapers published portraits of the leading organisers of the Congress, including that of the able President, Herr Charles Hieronymi, Hungarian Minister of the Interior, who, like the French ex-Premier, M. de Freycinet, a distinguished engineer, has rendered great service to the cause of sanitary engineering.

Early on Sunday morning the streets of Budapest were enlivened by the rattle of carriages conveying delegates in full uniform or in evening dress to the great hall on the borders of the Danube called the Redoubt. This is a beautiful building and admirably adapted for a ball-room. It is, however, totally unsuited for public meetings. A successful Hyde Park orator might possibly make himself heard, but the timid, hesitating speeches of men who, though most eminent in science, are unknown and unpractised in oratory were utterly lost on the audience. Then, as no places were provided near the platform for the foreign press, much of what was said must remain in oblivion. Probably this is no great loss, for, after all, the ceremony was merely a formal exchange of compliments. The proceedings were opened by the President of the Congress, Herr Charles Hieronymi, who, after words of greeting, invited his Royal and Imperial Highness Archduke Charles Louis to open the Congress.

After his Royal and Imperial Highness had welcomed the Congress to Hungary in a brief and formal, but cordial, speech, the Chief Burgomaster of the Capital of Hungary welcomed his Highness in the name of the town of Budapest, and delegates of various foreign Governments made short complimentary speeches. Dr. Corfield, who spoke on behalf of the British delegation, said that at no previous Congress had there been so large a number of delegates from England. If so few had attended on previous occasions it was because the English were a practical people and shrewdly suspected that the upshot of such Congresses would not be very practical. He trusted that some improvement would be effected in this respect. At about 1 P.M., the list of speakers being exhausted, His Royal and Imperial Highness withdrew, and the streets of the town were once more enlivened by the brilliant uniforms, orders, and medals worn by so many of the delegates. The opening meeting was, in short, a remarkable sight. As far as oratory was concerned, not a single really good speech was delivered, and probably nothing was said that will ever be quoted on future occasions; but of Hungary itself and of the Hungarian people much that will be always well worth remembering was seen, heard, and learnt. The ready courtesy and the buoyant enthusiasm of the Hungarian people are most inspiriting. Though it is a long journey to Budapest, none who have taken it on this occasion will regret the step, or their presence at this well-ordered parliament of sanitation.

This sentiment gives occasion for a somewhat unpatriotic comment. Dr. Corfield, in referring to the practical nature of the English people, should have added that the most unpractical of all the Congresses was the London Congress of 1891; and, whatever defects there may be in the organisation at Budapest, these are due to too close an imitation of the London precedent. It is believed that a motion will be made to enable future Congresses to return to the method of procedure that prevailed before the London Congress of 1891.

In connexion with the Congress one ceremony took place—the unveiling of the international monument to Professor Semmelweis, the practical founder of antiseptic midwifery,—of which we have already been able to give a forecast to which little need be added. We reproduced last week sketches of the monument which has been erected at Budapest, and, through the courtesy of Surgeon-Major Theodore Duka, a portrait of the late eminent gynæcologist, together with a brief summary of his life.

Surgeon-Major Theodore Duka, on the occasion of placing the wreath on the international monument on Sunday, Sept. 2nd, made the following remarks: "After the hearty tribute paid to the memory of Semmelweis by Professor Hüppe in the eloquent oration we have listened to this afternoon, and after the affectionate words spoken by Professor Kézsmárszky in remembrance of his eminent predecessor—words appreciative of the beneficent work Semmelweis has done—there is nothing left for me to say but to express deep gratitude to the central committee for the great honour they have done me in desiring that I should place this wreath on this monument on behalf of those friends and subscribers to the memorial who are living abroad. In complying with the wish of the committee on this solemn occasion I regret, as I am sure you all do, the absence of Sir Spencer Wells, who took a leading part in securing success to the undertaking in England, and it will not surprise you since you know that Englishmen are always ready to sympathise with all that is noble, kind, and generous. At the head of the committee in London, assisted by the most illustrious names of the British profession, Sir Spencer Wells did all he could to inspire warm interest for the object in view. It would be invidious to mention particular names when all deserve to be honoured, but I must not omit paying due homage of gratitude to one who is no more, the lamented Sir Andrew Clark, the late President of the Royal College of Physicians of London. On Oct. 25th, 1892, Sir Andrew Clark presided over the meeting held with his permission at the College and spoke in eloquent terms approving of the proposal. Generously aided by the medical press and by the active coöperation of the treasurer and the secretary, Drs. Cullingworth and Boxall, success was at once secured. To the British committee, therefore, and to the press, our hearty thanks are due. The struggles and sufferings of Semmelweis, and particularly his melancholy end, excite our deepest sympathy, but they have not been in vain. The luminous spark on the horizon of curative medicine which was destined eventually to develop into a brilliant light, showering untold blessings on suffering humanity, was first understood and pointed out to the profession by Semmelweis. The results of the use of antiseptics which he brought into practice in the treatment of puerperal women conferred a benefit on numbers of mankind, who do not yet know and will probably never know the name of their benefactor. But *we* know what he has done, and let this fragile wreath on the present occasion be a token of that glory which in simple justice must never fade from the name of Semmelweis."

On Tuesday the reports to the Bacteriological Section of the various national committees upon the Etiology and Prevention of Diphtheria excited the greatest interest and secured the closest attention. It is possible that these communications will form the distinctive feature of the Eighth Congress.

We print at length the practical paper written by H.R.H. Princess Christian of Schleswig-Holstein, and delivered before the Samaritan Section of the Congress on Monday. The paper was read by Dr. Bezly Thorne.

Two-thirds of the contributions to the Section of Tropical Disease and Hygiene have emanated from British sources, a strikingly practical proof of the length and breadth of the empire on which the sun never sets, of the enormous extent of our colonial enterprise, and of the responsibility that is laid upon us by our widespread obligations. This section being *par excellence* the British section, we reproduce two of the papers at length—the Presidential address of Surgeon-Major Duka and an interesting paper by Surgeon-Captain H. Herbert on the connexion in India between rainfall and cholera.

(FROM OUR SPECIAL CORRESPONDENTS.)

THE SECTIONS.

The work of the various sections commenced on Monday, September 3rd.

SAMARITAN SECTION.

There are comparatively but a small number of papers sent in to this Section, but among these the Section has had the advantage of receiving a communication from H.R.H. Princess Christian. There are but fifteen other papers announced, and these mostly by Austrians, Germans, and Roumanians. The following is the text of the paper sent by H.R.H. Princess Christian of Schleswig-Holstein, &c., President of the Royal British Nurses' Association:

On the Progress of Nursing in the British Islands.

The progress which has been made in medicine, surgery, and hygiene during the last few generations may be mainly attributed to the application of methods of precision alike in thought and action, and in the fields both of research and of practical effort. The faculties thus exercised have been developed and quickened by the light

of ever-increasing scientific discoveries, and the fruits of these discoveries have been applied, by men as good and wise as they are learned, for the general benefit of mankind. It is, however, only within quite recent years that method, precision, and organisation have come fully into play for the guidance of women who are engaged in the great and noble work of tending the sick and suffering. It was, of course inevitable that these women should in time feel the influence of the scientific progress around them, and that they should occupy a special place in the societies to which this progress had brought so many and such far-reaching changes. Their special endowments of sympathy, gentleness, and sensibility, and their capacity for attention to the minutest details, point to them as furnishing the most fitting channels for the bestowal upon individuals of the benefits which have arisen from the advancement of scientific and hygienic knowledge; but, however great and varied may be their natural gifts, women unprepared by training can neither understand nor participate in a work which, if attempted apart from the control of discipline and of special education both of mind and body, must always terminate in failure. For these reasons it has come to be recognised that nurses, in order to become efficient servants of suffering mankind, must submit their faculties to proper education and must learn to exercise them with method and accuracy. Thus, and thus only, can they become the real handmaids of the physician, the surgeon, and the sanitarian. Even in England and its sister kingdoms this cardinal truth is as yet only partially realised, and it is still very imperfectly carried into practice; but steady and encouraging progress is being made, and the recent past is full of promise for the future. Scarcely a generation has passed away since it was thought by all, save a few who were in advance of their time, that any woman with willing hands was fit to carry out the directions of the scientifically trained medical man and hygienist; now no hospital of importance would be considered complete without a training school for nurses in which a clearly defined curriculum of theoretic and practical education is enforced. As yet the several standards of training and efficiency are almost as numerous as the institutions themselves; by degrees, however, at least an approach to uniformity has been arrived at in those which stand highest in the esteem of the medical profession and in that of the more advanced trained nurses. Let us hope that the day is not far distant when practically complete uniformity will have been arrived at and established, and when the honourable title of "Trained Nurse" will be borne only by those who have arrived at a definite degree of efficiency and of technical knowledge, as tested and ascertained by means of a recognised examination. The Royal British Nurses' Association has already done much towards the accomplishment of so desirable an end. The association was founded five years ago, in order to unite into a single body those who devote their lives and energies to attendance upon the sick, both for the furtherance of their common interests and to organise them into a recognised profession. The governing body of the association soon became convinced of the necessity of establishing a register of trained nurses, which has ever since been maintained in accordance with the main principles which have been laid down by the General Council of Medical Education for the maintenance, under the powers of the Act of Parliament, of a register of the members of the medical profession. The nursing register now bears upon its roll the names of 2000 trained nurses, nearly all of whom have undergone a three years' training in a recognised hospital or hospitals. In addition to applying searching tests to ascertain the efficiency, the personal character, and the general qualifications of all those who apply to be inscribed, the association exercises the disciplinary power of erasing the names of any who, after registration, may prove to be unworthy, by reason either of inefficiency or of misconduct. In the year 1890 the Queen was pleased to bestow on the association the title of "Royal"; and last year it received the distinction of incorporation by Royal Charter. The corporation includes amongst its members and governing body, in addition to trained nurses and the heads of the nursing departments attached to many of the principal hospitals, a large number of the most distinguished physicians and surgeons in the United Kingdom. By this means the harmonious and subordinate coöperation of the nursing element with the medical profession is secured. The corporation is now in process of establishing a complete course of lectures on those subjects—such as elementary anatomy, physiology, hygiene, ward and sick-room management, and invalid cookery—which are necessary to prepare nurses for their important duties, and will thus perform the part of a college for the instruction and preparation of those who may be desirous of entering hospitals as probationers. It is the hope of the corporation that the time is not far distant when the State will see the importance of recognising a definite diploma of nursing and of giving its official sanction to the maintenance of the Register of Trained Nurses. Thus, those belonging to the Royal British Nurses' Association are endeavouring to follow the path of progressive changes in the great social developments which will always distinguish this century. It should also be mentioned that a great impetus was given to the cause of the higher training of nurses in Great Britain by the committee of the House of Lords, which in 1892 published conclusions at which it had arrived after very searching inquiry and expressed complete approval of the standard of three years' training then already adopted by what is now the Royal Corporation of British Nurses. Another sign of the times is the fact that, while these words are being penned, a scheme is being inaugurated for organising a volunteer reserve of three years' trained nurses for army service in time of war, a reserve which the Royal British Nurses' Association will hold in readiness for the requirements of the State at seven days' notice. It is proposed that these nurses should undergo special instruction in military ambulance work, and that, when in active service, they should receive the same pay and be entitled to the same distinctions as the permanent members of the Army Nursing Department. In concluding this brief notice of the progress which is being made in the organisation of women for the service of the sick and suffering in this country and its dependencies special emphasis must be laid on the obvious truth that education and training are not alone sufficient to qualify women for the proper fulfilment of duties so important and so engrossing; they must also be prepared to bring to their work all the best qualities and endowments of mind and heart, and to exhibit a single-minded and unselfish devotion to duty. Sympathy and womanly tenderness must neither be blunted by familiarity with suffering nor swallowed up in scientific interest or in a desire to attain to professional excellence. Women who nurse must not only be women still, but they must also be good women in the highest and best sense of the words.

SECTION OF TROPICAL DISEASE AND ITS HYGIENE.

In this Section there are thirty-eight papers announced, and no less than twenty-five of these papers are in English. Among these papers Surgeon-General Sir William Moore, K.C.I.E., honorary physician to the Queen, contributes a study on

Tropical Dietetics.

Though the division of foods, the author of the paper maintains, into heat-forming and flesh-forming principles cannot be strictly maintained, it is none the less correct enough for practical purposes. In the tropics the amount of oxygen introduced into the system is lessened, and the amount of carbonic acid expelled equally diminished. There is also less urine, so that all the urea which should be excreted may not pass away. Hence a condition arises often described as malarious cachexia, but which is in reality anæmia. Both classes of food are in less demand in the tropics. Europeans, however, continue too often their home habits and seek to stimulate their flagging appetites with spices and spirits. Nevertheless, Sir William Moore does not venture to prescribe any special dietary, but contents himself with the obvious recommendation that the strictest moderation should be observed. He, however, does insist that vegetables are indispensable to prevent latent scurvy, and then raises a point which certainly is too often neglected—namely, the importance, especially great in the tropics, of cleanly provender for animals that are to be used as food. Also, all food should be carefully protected from flies, and all cooking utensils very scrupulously cleaned. Europeans should be careful to eat before going out into the comparatively cold morning air. Shellfish and oysters are condemned as unsuitable for the tropics. In respect to drink, pure water, if it is absolutely pure, is undoubtedly the best and the most suitable of all drinks; Sir William Moore, nevertheless, thinks light wines are not likely to prove injurious, but alcohol should only be drunk, if at all, after sunset and not between meals.

Leprosy.

The question of leprosy was discussed by Dr. George Thin (London), who drew a contrast between the regulations in

force in self-governed colonies, like New South Wales, and the absence of regulations in the imperially governed empire of India. The instinct of self-preservation in the first instance has proved stronger than the sense of duty in the second. Dr. Thin is hostile to the conclusions of the Indian Leprosy Commission and qualifies them as in contradiction to the statements made by the Commissioners themselves on the question of contagion. The report would have he thought, the effect of retarding much-needed legislation, not only in India, but in various colonies.

On the same subject the late Dr. Beaven Rake, Medical Superintendent of the Trinidad Leper Asylum, a late member of the Indian Leprosy Commission, dealt with the question of marriage in leprosy. He considers leprosy to be associated with a very resistant bacillus, and therefore it is probably communicated, but apparently not to a great extent. Voluntary segregation should be encouraged, and this will be facilitated by contriving marriages between lepers. With many lepers there is a marked increase of sexual desire, and experience shows the danger to the community that arises from the consequent immoral relations. Specific lesions of the genital organs of both male and female lepers occur. These probably cause satyriasis and nymphomania, followed by impotence and sterility. Nevertheless, in Trinidad only one case in ten years suggested the possible communication of leprosy by cohabitation. The Leprosy Commission found 60 to 70 per cent. of leprous couples sterile, and the average number of children born to each couple was less than one. If leprosy were dependent on heredity alone it would soon die out. The alleged congenital cases of Navarra and Bogota are very doubtful, and no other cases are recorded. The Leprosy Commission found leprosy in direct line only in 5 to 6 per cent. of the cases examined; but children of perfectly healthy parents were often leprous. Dr. Rake quoted at great length figures and reports from various leper settlements to bear out these assertions and concluded in favour of the organisation of farms with plenty of land and a small Government grant of money for each leper, as probably the best way of ensuring segregation.

Health of India.

The paper by Surgeon-General Sir Joseph Fayrer, K.C.S.I., will, it is to be presumed, be taken in this Section. Sir Joseph Fayrer commences by reminding his readers that the Empire of India, with a population of over 257,000,000, represents one-fifth of the world and is nearly as large as Europe. Dealing with the different climates of India, the paper points out that the prevalent intensity of fever is largely influenced by stagnant subsoil water. Forests temper the climate and tend to increase the rainfall in comparatively arid regions. The diversity of the native races entails a great variety of moral and physical attributes. The nature of the diet of the natives makes them more prone to adynamic form of disease. Then the social habits, involving early marriages and frequent sexual excess, still further lower vitality and the power of resisting such diseases as malaria. This and other fevers destroy more lives than all the other causes of death put together. Yet there is no true yellow fever and little or no scarlet fever. Nowhere have the beneficial results of sanitary work been more marked than in India. The Europeans in India, who previously to 1859 died in the proportion of 60 per 1000 per annum, died in the proportion of only 17·87 per 1000 in 1888 and 17·04 in 1892. Statistics prove how great is the amount of preventable disease. A hard-working sanitary department has been in existence in India since 1866. This department has proved that cholera is to be prevented or modified by sanitary work alone, and that all quarantines are futile and hurtful. Basing action on experience and facts verified by skilled observation, and not on hypothetical explanation, a steady progress is being realised, if slowly, yet surely, and there is every hope for future advancement.

Brigade-Surgeon-Lieutenant-Colonel Kenneth Macleod, M.D. Lond., confirms Sir Joseph Fayrer as to the benign character and scarcity of scarlet fever in India. Though frequently brought over in troop and other ships, scarlet fever is an example of a disease whose contagion is elaborated within the body, but is hindered by climatic conditions from being transferred from man to man except under powerful morbific influences, and soon dies out in an inimical environment.

Mr. Hyde Clarke of London urges the importance of hill stations for soldiers and civilians in India. More railways are needed, and many of the public offices could be removed to the hills during the hot weather.

Yellow Fever.

Dr. Charles Finlay of Havana communicates a paper on Yellow Fever, in which he expresses the opinion that partial or total immunity probably results even from the mildest infection which happens to find its way into the system of a susceptible person. A succession of mild attacks appears not infrequently to ultimately endow the person thus affected with permanent immunity. Thus the adult natives of Havana probably escape because they have suffered slightly in their childhood. Dr. Finlay alludes to the theory which attributes the spread of yellow fever to mosquito bites, and relates that in the course of thirteen years ninety persons susceptible to yellow fever have been inoculated by contaminated mosquitoes. Seventeen presented pathogenic results within twenty-five days. None of the seventeen were subsequently attacked with albuminuric fever, and only one has suffered a non-albuminuric fever when afterwards subjected to severe exposure. It is supposed that most of those who had not suffered had derived some degree of immunity from their inoculation, for among the seventy-three negative cases only three deaths from yellow fever and eight moderate or severe attacks of the disease subsequently occurred. If the mosquito theory is admitted, then measures must be taken to prevent mosquitoes stinging yellow fever patients. Mosquitoes that have approached the patients should be destroyed, and this can be done by raising the temperature of the room to 50° C. All localities where patients have been stung should be considered to be unsafe for thirty-five to forty days.

Mr. James H. Walker deals with the intestinal parasites in beri-beri, concluding that it is even more than ever necessary to enforce the boiling and filtering of all drinking water and great cleanliness in eating.

Dr. A. Laveran of Paris has a paper setting forth that his studies made since 1891 confirm the communication he then submitted at the London Congress of Hygiene to the effect that he had discovered in different parts of the world the hematozoa of marsh or paludal fevers. He maintains that there is but one single parasite, which, however, cannot, as yet, be cultivated outside the human organism, and we do not know under what form this germ is to be found outside the human being. But this problem has now become a practical question, must be further studied, and will render great service in the treatment of the disease.

SECTION OF FOOD AND ITS SUPPLY.

Forty-seven papers are announced in this Section, and naturally the question of water-supply is one that holds a very prominent place.

Water-supply.

Professor Victor C. Vaughan, of Ann Arbor, Michigan, believes that weekly, and in some seasons daily, bacteriological examinations of public water-supplies should be made. Harmful germs might thus be detected before they became sufficiently numerous to cause an epidemic. The method employed in the Michigan State Laboratory is to be described. White rats are employed because they breed so fast that where 300 to 400 are required in the course of a year this becomes a consideration. The water is placed on gelatine plates, and some of it is put in beef-tea tubes. The rat is inoculated with the latter, and if it dies comparisons are made between the original plate and those made with the spleen, &c., of the dead rat. Many germs are found in water that will not grow at the temperature of the human body, and such water, though malodorous and unpleasant, does not produce disease. Of the germs that grow at 38° C. and higher temperatures some are fatal to animals and others are not, so that they can be readily classified as toxic and non-toxic germs. Some of the former produce the same symptoms and the same post-mortem appearances in animals as are observed after the similar employment of Eberth's germ. They live and multiply in the animal body, and waters containing such germs have always been condemned.

Mr. Henry Robinson, M.Inst.C.E., of London, summarises the results of investigations throwing a new light on the action of filters and the purification of sewage and water. Public works must now be conceived in harmony with the knowledge recently acquired. Formerly we relied solely on chemical analysis and attributed the reduction of organic pollution to oxidation or mechanical filtration. It is now seen that microbes perform the most important function

in the removal of organic matter from water. This entirely alters the manner in which we must now consider water-supply and sewage disposal works. Then, in regard to the action of bacteria, we shall also have to take into account the effect of climate in dealing with water purification.

The question of water-supply is discussed by Professor Gaertner of Jena, who propounds his views concerning the qualities of a good drinking water on the same lines as he did at the Vienna Hygienic Congress seven years ago. He dwells also on the importance of teaching the people the necessity of having good drinking water. Professor Ballo of Budapest, speaking on the same subject, sets forth the conditions required for a good drinking water. He asks for a constant control of the waterworks in a chemical and bacteriological direction, and insists on the importance of cleaning the water-pipes regularly. The water standing in the pipes should be all drawn off before it is taken for use.

Food Adulteration.

Dr. P. F. van Hamel Roos (Amsterdam) insists that State intervention to prevent adulteration is absolutely indispensable. There should be chemical analysis of goods as they leave the factories or wholesale depôts. The public on purchasing from retailers should be able to ascertain whether what they bought corresponded with what the wholesale merchants sold. Public analysts should receive State-paid wages, so that they could analyse for the public without making heavy charges on poor people anxious to eat wholesome food.

The controlling of food has been the theme selected by the well-known analyst of Münster (Westphalia), Professor T. König. He points out that control would only be efficient if it is exercised by a public office, State, or municipality, and if this service is managed by well-instructed chemists, bacteriologists, and microscopists, who have the help of a physician or of a veterinary surgeon for special questions. International measures regarding the control of food would be highly desirable, but they must be delayed till more surety and uniformity are obtained regarding it in the different countries.

Cow's Milk.

Dr. Biedert of Hagenow has a paper on Cow's Milk as Food. Cow's milk, as containing the most easily digestible albumen, casein, and the most easily emulsible fat, which assist one another in the process of absorption, is surpassed by human milk so far as easy digestibility of the casein is concerned. It also contains a more advantageous percentage of fat. The third nourishing constituent of milk, belonging to the carbohydrates—viz., milk-sugar—is also present in a higher percentage in human than in bovine milk. The milk-sugar, by forming lactic acid, influences favourably the digestion of proteids and by acid reaction reduces the fermentation in the intestines. Dr. Biedert then deals with the properties of good cow's milk and with the factors to which the different qualities of milk are due—e.g., the breed of cattle, feeding, hygiene of dairies, &c. The principal task in the supervision of milk would be, according to him, to prevent the sale of milk containing dirt, and the temperature of which exceeds 20° C. Besides the processes of Pasteurisation and sterilisation, subsequent cooling down of the milk is necessary to prevent the growth of micro-organisms. Sometimes the milk becomes less digestible without the cause being known, especially in summer time, when it must be much more diluted than usually. If used for feeding children or in various preparations—e.g., dextrinised flours, or cream conserves, or peptonised milk—zymines must be added; but the preserved milk must be prepared by very clean processes. For producing a good milk for feeding children specially equipped and conducted institutions should be founded, where the milk should be examined very carefully by bacteriologically and chemically trained analysts and physicians. In connexion with such institutions rooms should be provided for admitting the children, and special nurses for them. The milk should be prepared in the least expensive manner, in order to enable the poor classes to make use of it for their children and their invalids.

SECTION OF INDUSTRIAL AND AGRICULTURAL HYGIENE.

Thirty-seven papers are announced for this Section, and others may yet arrive at the last moment. Dr. Jules Félix of Brussels urges that the limitation of the hours of labour is necessary for all workers and should be reduced in proportion to the intensity, the hardness, and the insalubrity of the work. In large factories, and more particularly in mines, the hours of labour should not exceed eight hours per day. Civilised man, no matter what his social position may be, has a right, Dr. Félix maintains, to eight hours' sleep during the night time, for day sleep is not so effective as a restorer of strength. A civilised man has a right also to take his meals without undue and indecent haste, and must have the needful leisure to keep himself clean and to cultivate his better feelings and his intelligence by wholesome exercise and pleasurable recreation. He should have time to fulfil his duties towards society, towards his family, and towards his country. These ends must be attained, and sufficient leisure must be enjoyed by the workers if we wish to maintain their health and ensure social peace.

M. Emile Cacheux of Paris insists more particularly on the necessity of wholesome dwellings for the working class and will demand that it should be universally known that landlords are liable for the ill-health of their tenants if this arises from the unwholesome condition of the tenements. This view, however correct in theory, is a principle which the tribunals of France, in their ignorance of hygiene, are not yet likely to apply with efficient vigour.

Dr. Fadek, of Berlin, presents a paper on the Condition of Sick and Invalid Workmen. He points out that hygienic interests are neglected by the German and Austrian laws affecting labour. The bureaucratic insurance system is favoured, but he would like to see the costs for the provision of medicines, subventions for sick labourers, and boarding of workmen who cannot get labour defrayed by the State from its revenues and not by the workmen and by their employers, as is done now.

Dr. Roth, of Oppeln (Silesia), treats the question of the influence of the hours of labour on the health of workmen in general. He thinks that the hours of labour should be reduced to at least ten hours per day. Juvenile labourers should get extra hours for recreation, which should be spent in bodily exercises and gymnastics.

Dr. J. Donath, of Budapest, speaks on chronic poisoning by mercury in the manufacture of Edison's glow-lamps. The poisoning is said to be caused by mercury vapour, due to leakage of the mercury pumps in the rooms.

SECTION ON THE HYGIENE OF TOWNS.

This is the Section for the practical sanitarian. Here the engineers will be in force, and here the rival systems of drainage will be defended and criticised with much vigour.

Sewers: their Value and Dangers.

The advocates of drainage as it was practised fifty years ago will meet those who are in favour of more modern, if more complicated, methods. Whatever may be the system of sewers that will be most approved of by the majority, Mr. Francis Stevens, M.R.C.S., D.P.H., of London, seeks to show that sewers are at least not injurious to those who work in them. Mr. Stevens has attempted a systematic investigation. The men he questioned varied from twenty-two to sixty-five years of age and had served in sewers from eight months to twenty-two years. By far the greater number had not suffered from any fever such as typhoid fever or from suspicious sore-throats. Rheumatism, and colds were the general complaints, which is not surprising considering the very sudden changes of temperature to which these men are exposed. Many complained of the smell of chemicals that passed down the sewers, and also of headache when working in sewers so small that they had to bend double; but, on the whole, the men looked healthy, and everything goes to show that they are healthy. The amount of time lost through illness among sewer men compares favourably with that of others who work for municipalities. Those who have left off working in sewers have, with one exception, died at advanced ages—so far, at least, as Mr. Stevens' personal knowledge and experience go.

Professor van Overbeek de Meyer (Utrecht), who was secretary-general of the International Congress of Hygiene in 1884, when it met at the Hague, considers that the notable reduction in the mortality in large towns noticed in recent years may in part be attributed not only to sanitary measures but to a decrease in the birth-rate. Nevertheless, both infantile and child mortality have also been reduced, and this cannot be explained by a lower rate of natality. Thus, a good deal remains to the credit of hygienic measures, and especially to improved water-supplies. Professor Overbeek de Meyer does not think that it is demonstrated that drainage by water carriage has notably improved the health of towns;

on the contrary, the drainage of everything into sewers has created new dangers, new complications, and a new series of accidents, which constitute formidable menaces to the public health not only of towns but of the surrounding country, which is infected by the sewer outfalls from the large towns.

In contradistinction to the Dutch hygienist, M. Georges Bechman, chief engineer of the town of Paris and the successor of M. Durand Claye, whose life was devoted to the teaching in France of English principles of drainage, maintains that the drainage of everything into sewers is "the preferable and the preferred" system. All separate systems and special canalisations that have been advocated have made but little progress and are only suitable to special cases; but sewers of small diameter, pipe sewers, may in many smaller streets advantageously replace the large sewers formerly built. Of all methods of disposing of sewage that of irrigation, or sewer farms, is the best, and the money now spent in emptying cesspools and dealing with other abominations, if converted into a tax, could supply the means for building proper gravitation sewers and the establishment of sewer farms. These assertions are, in turn, challenged by Herr Parecz, deputy mayor of the Hungarian town of Arad. Herr Parecz is proud to think that his town has taken the initiative in Hungary and is now being drained on more modern principles than those advocated by M. Bechman. Water carriage, he will argue, does not suffice where there is not a sufficient fall, and therefore some special system must be adopted. That is why the town of Arad has followed the example of Eastbourne and many other English towns, of Rangoon in India, and of Toulon in France, and is now applying the pneumatic Shone system to raise its sewage from the lower levels. Thus will be created artificially a sufficient fall to ensure that the sewers shall be self-cleansing.

SECTION OF THE HYGIENE OF TRANSPORT.

The President of this Section is a familiar figure to all the *habitués* of international congresses. Dr. Louis de Csatary is the energetic propagator of sanitary measures on railway lines and has been described as the good genius of the weary traveller; he is also Government inspector of railways in Hungary. It was natural that he should be chosen as President of this Section. In his inaugural speech Dr. de Csatary points out how vast are the travelling facilities of the modern world. To-day whole populations emigrate without let or hindrance, though in former times such movements of humanity could only have been accomplished after sanguinary wars. It is but natural that, as the means of travelling increase, the dangers of conveying disease from one place to another should also increase; therefore it is more particularly necessary to apply all the discoveries of science and all the principles of hygiene to the management of railways and of ships. The organisers of the Congress consequently determined to create a special Section to study the questions of sanitation on board ship and sanitation on the railway. Following Dr. de Csatary, Dr. Boer Jenö, of Tövis, Hungary, will urge that there should be a medical man in constant attendance at all important railway stations, and Dr. de Pietra Santa, who was formerly physician to the Emperor Napoleon III., and Dr. Régnier, both of Paris, will insist on the necessity of reducing the hours of labour of railway servants. Dr. Pietra is strongly in favour of double shifts and complains that the medical service organised by the French railway companies has for object the treatment and not the prevention of illness. While there still remains much to be done, he acknowledges that during the last ten years the position of French railway servants has been materially improved.

Dr. Henry E. Armstrong of Newcastle-on-Tyne reads a paper on sanitation and the merchant services, and he has also brought numerous photographs to illustrate the state of the sailors' quarters on board ship. His paper is an energetic indictment of the manner in which sailors have been neglected. The neglect is not merely in sanitation but also in food-supply and cooking. Dr. Armstrong proposes that forecastles should be replaced by deck-houses, and hammocks by cots with iron spring mattresses. The cubic space allowed should be 150 cubic feet per man, lighted and ventilated to the satisfaction of the sanitary authority. All iron should be covered to prevent condensation of vapour. Sailors should be provided, when on board, with a lavatory, a bath, and a place for washing their clothes. Merchant seamen should wear a uniform, and the dietary should be fixed by law, and only qualified cooks be employed. All sanitary arrangements Dr. Armstrong proposes to place under the Local Government Board, so that local influences should not have too much play in defeating the purpose of reform. Then the naval service may become popular, and it will not be necessary to engage so many foreign seamen on British ships.

SECTION OF THE HYGIENE OF SCHOOLS.

Fifty-three papers are announced for this Section, coming from speakers of almost every nationality.

Dr. Albert Berzeviczy (Budapest), the President of the Section, gave an instructive opening address on the necessity for proper physical education of school children. He credited Great Britain with furnishing the pioneers of athletic training, a fact to which he considered that we owed our comparative vigour and longevity as a nation.

Dr. Francis Warner presented the report of the British committee appointed in 1891 to investigate the subject.

Dr. R. Régnier (Paris) energetically denounces the insalubrious condition of the well-known *lycées* or superior schools of Paris. He proposes that pupils should never be allowed to work more than ten hours a day. They should have frequent exercise and numerous douches. He then deals with purely local French grievances.

Professor Hyacinthe Kuborn (Liège) quotes the Belgian law dating as far back as 1830 giving freedom of education and the more recent laws compelling the local authorities to provide suitable primary schools in all districts of the kingdom. The cost is paid—one-third by the State, one-third by the province, and one-third by the district or commune. A special law regulates the cubic space allowed to each pupil, the heating and ventilation, the size of the yard for recreation, the gymnasium, &c. And these regulations are described as satisfactory so far as public or State schools are concerned; but in private schools very bad conditions prevail, particularly as these establishments are not subjected to State inspection. Education is gratuitous for poor families, but not obligatory; nevertheless, in 1890, of the army recruits only 10·9 per cent. had not received a primary education. Many of the non-educated children have the taint of inherited alcoholism. The children attend the primary schools from the age of six to twelve or thirteen. Elementary sciences and hygiene are taught, and the teaching is based on the intuitive method. Classes are held for five hours in 250 days of the year. Lessons in cooking and housekeeping are greatly encouraged, and have proved of much benefit. Many of the children, when aged eleven, are induced to take a pledge to abstain from alcohol till they have reached the age of twenty, and then only to drink a moderate quantity of beer or wine. There is also an organisation to supply clothes to poor children, another to take town children to the country during the holidays. Then there are societies to provide baths and the gratuitous distribution of medicaments and meals to very young and poor children. There are also municipal hospitals on the sea-shore for scrofulous and rachitic children. The hygiene of the public schools of Belgium, with a very few exceptions, has so much improved that shortsightedness is now quite exceptional, overtraining no longer exists, and chlorosis and nervous affections are not so frequent. But better medical inspection is still needed to prevent infectious fevers, &c., in schools. Professor Kuborn suggests, in conclusion, that great service would be rendered if the scholars were subjected to anthropometric as well as to general inspection.

Dr. Mangenot (Paris), while remarking that primary schools are more healthy than the homes of most of the pupils, they, nevertheless, are the means of spreading disease. He therefore urges that not only should all walls and floors be frequently washed with antiseptics, but that the pupils should be taught to keep their hands and persons scrupulously clean. In times of epidemic the pupils should be made to rinse out their mouths with an antiseptic solution, especially before meal times.

Dr. Gustave Langneau (Paris) insists that much of the illness prevalent in schools is due to the sedentary habits of the pupils. To avoid these evils a great deal of unnecessary writing could be abolished; and, as in most countries every able-bodied man must be a soldier, physical exercise could be advantageously given to pupils in schools by making them commence their military training during their boyhood.

Professor Erisman, of Moscow, will deal with the question of the formation of shadows in school-rooms as caused by direct or indirect light. He will urge that under the influence of direct light shadows cannot be avoided, and the light becomes very unequal in different parts of a school-room. Indirect light could be distributed more uniformly,

and the pupils do not overshadow their writing-desks as is done under the influence of direct light. *Ceteris paribus*, indirect light should be preferred from a hygienic point of view for lighting school-rooms.

SECTION OF BACTERIOLOGY.

The Bacillus of Diphtheria.

Three sections—those of Hygiene and Tropical Diseases, and that of Bacteriology—met on Tuesday to receive and discuss various reports on—

Diphtheria and its Treatment.

Herr Hieronymi presided, and called upon Professor Löffler, discoverer of the diphtheria bacillus, for the German report. Professor Löffler's practical address was devoted to urging the necessity of invariable and systematic bacteriological investigation into all cases of diphtheria. He considered the identity of the bacillus to be established, and that diphtheria could therefore be distinguished from other and kindred affections of the throat. He next stated that the bacillus of diphtheria might be present in persons enjoying health without producing the symptoms of the disease, and he gave it as the result of the German committee of investigation's work that the bacillus might disappear with the symptoms, but might remain for months in a condition of active virulence in the throat of the infected subject. The German committee laid especial stress upon the influence of domiciliary environment. As the bacillus of diphtheria was possessed of such vitality that it could under the fostering circumstances of dirt and darkness remain alive and mischievous outside the human body, it followed that cleanly, and bright, and airy dwelling-houses must form the most practical preventive against an epidemic spread of the disorder. But local precautions must not be neglected.

The report of the British committee was submitted by Dr. Edward Seaton, the medical officer of health of the county of Surrey, who laid stress upon the melancholy fact that in the United Kingdom the disease had during the past decade become much more prevalent. He considered that the overcrowding in our large towns was largely answerable for this, and did not consider that the public properly realised the importance of systematised preventive medicine.

Dr. Billings, Deputy-Surgeon-General of the United States army, who presented the report of the American committee, had a more cheerful story to tell. He was able to show by maps and figures that the general American mortality from the disease had decreased; the same data, however, proved that in America, as with us, it was the urban population that now suffered.

Mr. M. A. Adams, F.R.C.S. (Maidstone), communicated a paper on the Relationship between the Occurrence of Diphtheria and the Movement of the Subsoil Water, being a continuation of his communication to the Seventh Congress held in London in 1891. He had prepared a diagram, showing the fluctuation of the subsoil water at Maidstone from 1835 to 1893. From the diagram he concludes that damp, close stagnant states of the atmosphere promote, whilst the opposite conditions oppose, prevalence of diphtheria. Broadly speaking, right through the nine years, from beginning to end, a strict concordance could be traced between soil dampness and diphtheria on the one hand, and absence of diphtheria and soil dryness on the other hand. But the dampness and dryness have their appropriate seasons, and so long as the order of this occurrence is preserved health is maintained. As long as the soil is well washed by the winter's high tide, and afterwards dried and aërated during the summer's low tide, all goes well and diphtheria is kept in abeyance; but so soon as these salutary movements are arrested, or their order disturbed, diphtheria gets the mastery, reaching its acme of violence when stagnation is most complete. He lays stress upon the fact that the virulence of the disorder increases with the stagnation of the soil air. This shows that the quality as well as the quantity of this disorder varies in obedience to the circumstances concerning the subsoil water, there being an agreement, in the inverse ratio, between the case mortality from diphtheria and the range of the movements of the subsoil water.

The Bacteriology of Cholera.

A discussion on this subject was opened on Wednesday by Professor Max Gruber of Vienna and continued by M. Metchnikoff of Paris.

Professor Gruber's views have been recently laid before our readers, and his able paper has substantially appeared already in our columns. His conclusions upon the etiological importance of Koch's cholera vibrios may be summarised generally as supporting the bacteriological view of the etiology of cholera, although he considered that wider investigations were necessary to prove the truth of the propositions advanced by Koch. The vibrio can be divided into many subspecies difficult to distinguish from one another. Some of the characteristics of the vibrio are of no practical value so far as the diagnosis of cholera is concerned; in the majority of cases of cholera, however, the characteristics are quite definite. The identification of vibrios found in water with cholera vibrios must be regarded with suspicion, especially where the connexion with true cholera is not apparent. Professor Gruber considered the microscopical appearances of the young colonies of Koch's vibrio in 10 per cent. gelatine to be entirely characteristic.

M. Metchnikoff took an opposite view and gave an account of experiments showing the interaction between the vibrio of cholera and other microbes.

Preventive Measures against Cholera.

Dr. Frank Clemow of Cronstadt set forth in an able paper and with many illustrative cases—the recent case of the *Balmore* among others—the arguments to show that the water carriage theory of cholera, though totally denied by some good authorities, is sound. He showed that, though cholera has been spread by water, the water question is but one phase of the subject, the influence of local conditions being quite as important.

Surgeon-Captain H. Herbert (Kattywar, India), treating of rainfall and cholera in India, shows that the chief mischief arises from the localised collections of stagnant surface water, with subsoil water nowhere far from the surface. In any locality excess of rain may temporarily check cholera, but cannot definitely abolish its prevalence. Very dry weather, by withdrawing water in the wells from the influence of the sun's rays or rendering pollution of wells less frequent, has also sometimes a good effect. This paper we print in full on page 570.

Surgeon-General C. A. Gordon, C.B., M.D., described his personal experiences of cholera from 1842 to 1879, but, while providing a great store of information, was not disposed to come to any very practical conclusions. It is to be hoped that this prudence will not be entirely maintained.

Dr. R. W. Felkin (Edinburgh) showed a very ingenious map on which are recorded the distribution of disease in, and the climatology of, Africa.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the first examination of the Board at the quarterly meeting of the examiners in the subjects indicated under the Four Years Regulations:—

Part I., Chemistry and Chemical Physics:

Adams, Frank, St. Thomas's Hospital.
Ahrens, Henry Augustus, King's College, London.
Asplen, Urban Morris, Cambridge University and King's College, London.
Bell, John Kerr, University College, Liverpool.
Bennett, James, Owens College, Manchester.
Birch, John, Owens College, Manchester.
Blomfield, Thomas Nevill, private study.
Caddy, Adolphus Edward, King's College, London.
Claridge, William Walton, Middlesex Hospital.
Cogswell, Philip Dare, St. Mary's Hospital.
Davis, William Herbert, University College, London.
Dudley, Frederick Consett, Westminster Hospital.
Ennion, Octavius Roberts, St. Mary's Hospital.
Farrington, Alexander, Cambridge University and St. Bartholomew's Hospital.
Goodchild, William Hyder, St. Bartholomew's Hospital.
Hill, Rowland Wilbraham, Owens College, Manchester.
Howard, William Henry, Owens College, Manchester.
Hughes, Albert Henry, Clifton Laboratory, Bristol.
Kellett, Orme Sterling, University College, Cambridge.
Lucas, George Humphrey, Middlesex Hospital.
Meredith, George Lowe, London Hospital.
Mortimer, Arthur Ferris, St. Thomas's Hospital.
Onyon, Ellis Atkin, private study.
Payne, Joseph Lewin, Guy's Hospital.
Smith, Richard Coutts, University College, Liverpool.
Spurgin, Percy Bertram, St. Mary's Hospital.
Stephens, Thomas William Hext, University College, London.

Thorpe, Robert Smith, Owens College, Manchester, and Guy's Hospital.
Whittingham, Arthur Herbert, University College, Cambridge, and St. Mary's Hospital.
Williams, Penry Garmons, St. Thomas's Hospital.

Part II., Materia Medica and Pharmacy:

Alcock, George Herbert, St. Thomas's Hospital.
Allen, Humphrey, St. Bartholomew's Hospital.
Battye, Walter Rothney, University College, Bristol.
Bell, Thomas Dobson, University College, London.
Birch, Alan Priestly, Middlesex Hospital.
Birch, John, Owens College, Manchester.
Blagden, John James, St. Bartholomew's Hospital.
Blomfield, Thomas Neville, private study.
Bramwell, Charles, King's College, London.
Brickwell, Frank, St. Bartholomew's Hospital.
Burton, Edward Theodore, Queen's College, Birmingham.
Clarke, Frederick Adderley Howard, St. Bartholomew's Hospital.
Clough, William Henry, Yorkshire College, Leeds.
Colwell, Hector Alfred, St. Bartholomew's Hospital.
Cousins, Edward Rowe Mores C. B., University College, London.
Croft, Frank William, Westminster Hospital.
Curme, Duncan Edward, Cambridge University and King's College, London.
Davies, Edward Cecil, Guy's Hospital.
Davies, Howell, St. Bartholomew's Hospital.
Davis, William Herbert, University College, London.
De Gannes, Joseph Louis Fernard, University College, London.
Dibbs, William Steward, Yorkshire College, Leeds.
Downes, Godkin, Carmichael College, Dublin.
Dykes, Campbell, University College, London.
Ennion, Octavius Roberts, St. Mary's Hospital.
Farki, Hillel Jacob, Syrian Protestant College, Bayreuth.
Fogarty, Daniel, Carmichael College, Dublin.
Gardiner, Geoffrey Edward, St. Bartholomew's Hospital.
Gardner, Thomas Hudson, King's College, London.
Garman, Cornelius Bernard, London Hospital.
Grazebrook, Edwyn Robert, King's College, London.
Green, Walter, Charing-cross Hospital.
Handson, Lionel Edwin Charles, Guy's Hospital.
Hewitt, Harry Edward, St. Thomas's Hospital.
Ireland, John Joseph, University College, Liverpool.
Jones, Edward Shirley, St. Bartholomew's Hospital.
Lambert, Hugh Llewellyn, St. Bartholomew's Hospital.
Lavers, Norman, Guy's Hospital.
Lawson, Frank Howard, Middlesex Hospital.
Lee, William Howe, Firth College, Sheffield.
Lewis, George Williams, University College, London.
Lloyd, Evan, St. Bartholomew's Hospital.
Lucas, George Humphrey, Middlesex Hospital.
Manning, James Michael A., St. George's Hospital.
Mansell, Arthur Rodney, St. Bartholomew's Hospital.
Matthews, Samuel Ryder Russell, St. Mary's Hospital.
Milson, Ernest Henry, St. Mary's Hospital.
Morland, Egbert Coleby, St. Bartholomew's Hospital.
Morgan, William Ellis, Charing-cross Hospital.
Onyon, Ellis Atkin, private study.
Pearse, William Henry, Middlesex Hospital.
Pelle, William Hall, University College, London.
Plummer, Edgar Curnow, King's College, London.
Ransome, Robert Stanley, St. Thomas's Hospital.
Renshaw, Graham, Owens College, Manchester.
Rollings, John William, University College, London.
Rowlands, Robert Pugh, Guy's Hospital.
Rozelaar, Abraham Levie, Charing-cross Hospital.
Shave, Edward Simpson, Middlesex Hospital.
Sheldon, Albert William Stevens, St. Bartholomew's Hospital.
Simmons, Stewart Septimus, University College, London.
Sturdee, Frederick Herbert, St. Thomas's Hospital.
Sweet, Edward Hoare, St. Mary's Hospital.
Teague, William Vivian Parker, London Hospital.
Thwaites, Gilbert Bahn, St. Thomas's Hospital.
Underhill, Sydney Valentine Hercules, St. George's Hospital.
Viney, Henry James, Middlesex Hospital.
Walker, Sydney Robert, Westminster Hospital.
Webb, Hugh George Stiles, St. Mary's Hospital.
Wells, Lionel Thomas, St. Mary's Hospital.
White, Percy Stanhope, Queen's College, Birmingham.
Whitfield, Lorenzo, Queen's College, Birmingham.
Williams, William Wheldon, University College, London.
Winder, John, St. Mary's Hospital.
Worley, William Ernest Amsden, St. Bartholomew's Hospital.
Young, John Charles, Queen's College, Birmingham.

Part III., Elementary Anatomy and Physiology:

Battiscombe, Eric George, London Hospital.
Bell, John Kerr, University College, Liverpool.
Broughton, Louis Charles Southall, Queen's College, Birmingham.
Bunbury, Edwin Garrett, Cambridge University and University College, Bristol.
Butterworth, John, Owens College, Manchester.
Carlyle, Benjamin Fearnley, St. Bartholomew's Hospital.
Crosfield, Arthur Mellor, University College, Liverpool.
Dykes, Campbell, University College, London.
Elvins, Ralph Sedgley, Queen's College, Birmingham.
Freer, Horace Wilberforce, Queen's College, Birmingham.
Holden, Allen, Owens College, Manchester.
McKay, Robert, Middlesex Hospital.
Naughtin, Arthur William, King's College, London.
Nicholls, Francis John, University College, Cambridge, and Guy's Hospital.
Oldham, Samuel Drayton, Owens College, Manchester.
Reid, Stuart Bathgate, University College, Cambridge.
Russell, Francis John, London Hospital.
Sykes, Reginald, Yorkshire College, Leeds.
Taylor, Isaac, Yorkshire College, Leeds.
Watkins, Alan Percival, University College, London.
Weldon, Walter Ivan, St. George's Hospital.
Wolverson, John Archibald, Queen's College, Birmingham.

Passed in Elementary Physiology only:

Gladstone, Arthur Edward, University College, Cambridge, and St. Thomas's Hospital.

Passed in Elementary Anatomy only:

Charlesworth, Edward Adams, Middlesex Hospital.
Marsden, Walter, Yorkshire College, Leeds.
Pryce, Aaron, University College, Liverpool.
Shave, Edward Simpson, Middlesex Hospital.
Spencer, William Northey, University College, Bristol.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the necessary examinations and having conformed to the by-laws and regulations, have been admitted Members of the College and received their diplomas:—

Adams, Edward Coker, L.R.C.P. Lond., St. Bartholomew's Hospital.
Andrews, Henry Russell, L.R.C.P. Lond., London Hospital.
Archer, Samuel Arthur, L.R.C.P. Lond., University College, Liverpool, and Westminster and St. Thomas's Hospitals.
Bailey, Francis William, L.R.C.P. Lond., University College and Royal Infirmary, Liverpool.
Beach, Henry William, L.R.C.P. Lond., Guy's Hospital.
Borcherds, Walter Meent, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Briggs, Robert Ward, L.R.C.P. Lond., Edinburgh University.
Brown, Joseph Norwood, L.R.C.P. Lond., University College Hospital.
Burgess, Thomas William Watkins, L.R.C.P. Lond., St. Bartholomew's Hospital.
Byers, Henry Stagg, L.R.C.P. Lond., Durham University and St. Bartholomew's Hospital.
Campbell, John Hay, L.R.C.P. Lond., St. Mary's Hospital.
Carpmael, Cecil Edward, L.R.C.P. Lond., Guy's Hospital.
Chavasse, Howard Sidney, L.R.C.P. Lond., Mason College and Queen's and General Hospitals, Birmingham, and St. Mary's Hospital.
Clendinnen, William McEntire, L.R.C.P. Lond., Mason College and Queen's and General Hospitals, Birmingham.
Clendining, Fred. Talbot Driffield, L.R.C.P. Lond., Adelaide Hospital and University, and St. Bartholomew's Hospital.
Cock, Charles James Edward, L.R.C.P. Lond., Charing-cross Hospital.
Coldicott, William Rimell, L.R.C.P. Lond., Charing-cross Hospital.
Collins, John Boniface, L.R.C.P. Lond., St. Bartholomew's Hospital.
Copeman, Alfred Heathcote, L.R.C.P. Lond., St. Thomas's Hospital.
Cornish, Sydney, L.R.C.P. Lond., St. Bartholomew's Hospital.
Cosens, Francis Robert Seppings, L.R.C.P. Lond., London Hospital.
Cotton, Henry Hugh Powell, L.R.C.P. Lond., Westminster Hospital.
Couzens, Albert Ebenezer, L.R.C.P. Lond., St. Mary's Hospital.
Cowes, Adam, L.R.C.P. Lond., University College Hospital.
Creak, Alexander Brodie, L.R.C.P. Lond., Guy's Hospital.
Crookshank, Francis Graham, L.R.C.P. Lond., University College Hospital.
Davis, Albert Edward, L.R.C.P. Lond., University of Durham and University College Hospital.
De Castro, George, L.R.C.P. Lond., St. George's Hospital.
Dobell, Clarence Brian, L.R.C.P. Lond., Edinburgh University and St. Bartholomew's Hospital.
Drake, William, L.R.C.P. Lond., University College Hospital.
Ducat, Arthur David, L.R.C.P. Lond., St. Bartholomew's Hospital.
Duke's, Edmund Sprague, L.R.C.P. Lond., Guy's Hospital.
Emery, Walter D'Este, L.R.C.P. Lond., Mason College and Queen's and General Hospitals, Birmingham, and St. Bartholomew's Hospital.
Evers, Charles Henry, L.S.A. Lond., University of Durham College of Medicine.
Evans, Daniel Edward, L.R.C.P. Lond., St. Mary's Hospital.
Evans, Richard, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester, and University College Hospital.
Evans, Richard David, L.R.C.P. Lond., St. Mary's and Guy's Hospitals.
Faber, John Grey, L.R.C.P. Lond., St. Bartholomew's Hospital.
Fooks, Edward Verdon Russell, L.R.C.P. Lond., Charing-cross Hospital.
Freeland, Arthur Raymond Stillwell, L.R.C.P. Lond., London Hospital.
Gibbs, Francis Richard, L.R.C.P. Lond., St. Mary's Hospital.
Goodman, Henry Cyril, L.R.C.P. Lond., Cambridge University and London Hospital.
Haines, John William, L.R.C.P. Lond., St. Bartholomew's Hospital.
Hammond, Frederick Arthur Lucas, L.R.C.P. Lond., Charing-cross Hospital.
Harcourt, George Robert, L.R.C.P. Lond., St. Thomas's Hospital.
Harding, Charles Headley, L.R.C.P. Lond., Guy's Hospital.
Hargreaves, Walter Herbert, L.R.C.P. Lond., Middlesex Hospital.
Hartford, William, L.K.Q.C.P. Irel., Mercers' Hospital and Royal College of Surgeons (Ireland) and Middlesex Hospital.
Hatherell, Robert Ratcliffe, L.S.A. Lond., St. Thomas's Hospital.
Haward, Henry Horace, L.R.C.P. Lond., St. Thomas's Hospital.
Hepworth, John, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Hewer, Cecil Mackenzie, L.R.C.P. Lond., St. Bartholomew's Hospital.
Hibbert, Joseph Coote, L.R.C.P. Lond., University College Hospital.
Hills, William Charles Dillon, L.R.C.P. Lond., Charing-cross Hospital.
Horton, Thomas, L.R.C.P. Lond., Durham University and University College Hospital.
Hosford, Arthur Holloway, L.R.C.P. Lond., University College Hospital.
Howes, Gerald Sidney Owen, L.R.C.P. Lond., Guy's Hospital.
Howse, Cyril Beresford, L.R.C.P. Lond., London Hospital.
Hughes, Henry Spencer, L.R.C.P. Lond., Mason College and Queen's and General Hospitals, Birmingham.
Hunnard, Arthur, L.R.C.P. Lond., University College Hospital.

Hunt, George Bertram, L.R.C.P. Lond., University College Hospital.
Jiménez, Gerardo, L.R.C.P. Lond., Guy's Hospital.
Kinnersley, George Edward, L.R.C.P. Lond., St. Thomas's Hospital.
Lang, Arthur Joseph, L.R.C.P. Lond., University College Hospital.
Laver, John Wiseman, L.R.C.P. Lond., St. Thomas's Hospital.
Law, Joseph, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Lockyer, Cuthbert Henry Jones, L.R.C.P. Lond., Charing-cross and St. Thomas's Hospitals.
Longinotto, Michael Joseph, L.R.C.P. Lond., St. Thomas's Hospital.
Lucas, Claude Robinson, L.R.C.P. Lond., Guy's Hospital.
McCullough, Hugh Allan, L.R.C.P. Lond., University and General Hospital, Toronto, and King's College Hospital.
Melland, Charles Herbert, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Middlemist, Robert Charles, L.R.C.P. Lond., London Hospital.
Moreton, Frederick, L.R.C.P. Lond., Melbourne University and Westminster Hospital.
Munro, Henry Acland, L.R.C.P. Lond., Oxford University and Guy's Hospital.
Nattle, William Robert, L.R.C.P. Lond., University College Hospital.
Norman, Richard Henry, L.R.C.P. Lond., Westminster Hospital.
O'Flanagan, Martin Joseph, B.Sc. Lond., L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Oliver, Leonard William, L.R.C.P. Lond., St. Mary's Hospital and Leicester Infirmary.
Orella, Fermin Ralph, L.R.C.P. Lond., Cooper Medical College, San Francisco, and St. Bartholomew's Hospital.
Panting, Charles Henry, L.R.C.P. Lond., London Hospital.
Pawlett, Edmund Lawson, L.R.C.P. Lond., St. Bartholomew's Hospital.
Pettey, Tom, L.R.C.P. Lond., Edinburgh University.
Phillips, Llewellyn Caractacus Powell, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Pomeroy, Wallace, L.R.C.P. Lond., St. Thomas's Hospital.
Poynder, Frederick Cecil, L.R.C.P. Lond., Oxford University and St. Thomas's Hospital.
Pring, Horace Reginald, L.R.C.P. Lond., St. Thomas's Hospital.
Propert, Walter Archibald, L.R.C.P. Lond, Cambridge University and St. George's Hospital.
Raper, Matthew Henry, L.R.C.P. Lond., Middlesex Hospital.
Ray, John Howson, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Revell, Hugh Stanley, L.R.C.P. Lond., University College Hospital.
Roscoe, Henry, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Scharlieb, Herbert Johann, L.R.C.P. Lond., University College Hospital.
Seccombe, Phillip John Ambrose, L.R.C.P. Lond., Cambridge University, and St. Thomas's Hospital.
Shepard, Robert Henry, L.R.C P. Lond., St. Bartholomew's Hospital.
Shields, Oswin, L.R.C.P. Lond., St. Mary's Hospital.
Skipworth, Philip Lyonel Grey, L.R.C.P. Lond., St. Bartholomew's Hospital.
Stableford, Frank Barney Gorton, L.R.C.P. Lond., Mason College and Queen's and General Hospitals, Birmingham, and St. Thomas's Hospital.
Stainsby, John Addison, L.R.C.P. Lond., London Hospital.
Steinhaeuser, John Robert, L.R.C.P. Lond., Guy's Hospital.
Stephenson, William Arthur, L.R.C.P. Lond., Charing-cross Hospital.
Stevens, Reginald Charles Jeremie, L.R.C.P. Lond., St Bartholomew's Hospital.
Stewart, James Purves, L.R.C.P. Lond., Edinburgh University.
Sturges-Jones, Wilfred Edward, L.R.C.P. Lond., Guy's Hospital.
Swinhoe, Astley Cooper, L.R.C.P. Lond., St. Thomas's Hospital.
Thorpe, Albert, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Tilsley, John, L.R.C.P. Lond., University College and General Hospital, Bristol.
Tippett, Sydney Gordon, L.R.C.P. Lond., Westminster Hospital.
Trethewy, Arthur, L.R.C.P. Lond., Cambridge University and St. George's Hospital.
Vinter, Charles Herbert Sawyer, L.R.C.P. Lond., Cambridge University and St. Mary's Hospital.
Wales, Herbert John Leaviss, L.R.C.P. Lond., Guy's Hospital.
Wallis, Charles Edward, L.R.C.P. Lond., King's College Hospital.
Way, George Harold Cawley, L.R.C.P. Lond., University College Hospital.
Webb, Frederick Edward Apthorpe, L.R.C.P. Lond., St. Bartholomew's Hospital.
Westrup, Joseph Percival, L.R.C.P. Lond., King's College Hospital.
Wilson, William, L.R.C.P. Lond., London Hospital.
Withers, Percy, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Wright, Charles Holding, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Wright, Walter Southey, L.R.C.P. Lond., University College, Bristol, and St. Mary's and Guy's Hospitals.

FOOTBALL CASUALTY. — On Saturday last, during a Doncaster Junior League match between the Hexthorpe Second and St. James's teams, a player of the former team fractured his leg and was conveyed to the Infirmary.

MEDICAL MAGISTRATES.—Mr. C. J. Van Coller, M.B., C.M., L.R.C.P., L.R.C.S. Edin. (district surgeon), has been appointed a Justice of the Peace for Caledon, South Africa.—Mr. J. Arnallt Jones of Aberavon has, on the nomination of the Lord-Lieutenant (Lord Windsor), been appointed a Justice of the Peace for the county of Glamorgan.

PRESENTATION.—Mr. Alfred Edward Wilmot, L.R.C.P. Lond., M.R.C.S., and Mrs. Wilmot, of Burnham, Buckinghamshire, and formerly of Escrick, Yorkshire, have been presented, in commemoration of their silver wedding day, with a silver tea and coffee service.

LONDON BAKEHOUSES.—The St. George-the-Martyr (Southwark) Vestry has convened a conference for Monday, Oct. 15th, at the Vestry Hall, Borough-road, to discuss the present state of the law relating to bakehouses. Two delegates have been invited from each of the London local authorities.

DR. FRASER of Totnes has been awarded the Local Government Board premium for successful vaccination in his districts of the Totnes union.—Mr. J. P. Balbirnie, public vaccinator of the Staveley district, has also been awarded the Board's grant for the same reason. Mr. Balbirnie obtained the same award at the inspection two years ago.

THE MIDDLESEX HOSPITAL.—An unusually large number of governors attended the quarterly general court of the Middlesex Hospital held on Aug. 30th, under the presidency of Mr. J. W. Hulke, F.R.S., President of the Royal College of Surgeons. A very satisfactory report was read by the collecting clerk, showing a continued increase of subscriptions towards the funds of this well-known institution, whilst the donation list was chiefly noteworthy for the handsome gift of £1000 by Mr. John Maple of Bedford Lodge, Hampstead. The list of legacies contained several items of importance, amongst which may be mentioned the bequest of £434 by Mr. T. H. Gleeson, in respect of which Mr. Henry T. Gleeson was appointed an honorary governor. The expenditure of £18,475 was sanctioned for the construction of the convalescent home at Clacton-on-Sea, the building of which has already commenced. The home is to contain forty beds and is intended to afford rest and change of air to the patients of the hospital. Subsequently the court proceeded to make a slight alteration in the laws of the hospital in order to allow of the appointment of a third treasurer, and the Hon. Lionel Walter de Rothschild was elected to the newly created office.

THE CLINICAL RESEARCH ASSOCIATION.—This Association has been formed with the object of assisting medical practitioners in the investigation and treatment of disease by providing them with trustworthy reports upon excretions and morbid products, for the due examination of which neither time nor opportunity can be readily found in the hurry and stress of private practice. To fulfil this object a laboratory has been fitted up; and for the encouragement of research in cases which, though clinically interesting, are not remunerative in a pecuniary sense the fees have been fixed at so low a rate that the medical man may obtain a report without much expense to himself even where he is unable, owing to the position of the patient, to make any special charge for the investigation. The Association has sprung out of a smaller society which has been for some years existent in connexion with Guy's Hospital, and proved so successful that a laboratory had to be specially employed for its purposes. It has now been decided to sever the official connexion of that society with the hospital and place it on a wide basis; in which procedure the new Association has the support, among others, of Sir James Paget, Sir William Broadbent, the Professors of Medicine and Surgery in the University of Cambridge, Mr. Hutchinson, and Dr. Wilks. The directors of the laboratory are Dr. J. Galloway, Mr. J. H. Targett, and Mr. F. G. Hopkins, and the secretary of the association, from whom all information can be obtained at 5, Denman-street, S.E., is Mr. C. H. Wells. We think that many members of the profession will find the Clinical Research Association of great practical value to them.

BOOKS, ETC., RECEIVED.

CASSELL & Co., London.
The London Health Laws. A Manual of the Law affecting the Housing and Sanitary Condition of Londoners, with special reference to the Dwellings of the Poor. Issued by the Mansion House Council on the Dwellings of the Poor. 1894. pp. 167.

CHURCHILL, J. & A., New Burlington-street, London.
Lunacy Law for Medical Men. By Chas. Mercier, M.B. 1894. pp. 148. Price 5s.

HIRSCHWALD, AUGUST, Berlin.

Lehrbuch der speciellen Pathologischen Anatomie. Von Dr. J. Orth. Achte Lieferung (Ergänzungsband, II. Theil). 1894.

HODGE, WILLIAM, & Co., Bothwell-street, Glasgow.

Andersonian Chemical Society, Glasgow. A Short Historical Account of the Andersonian Professors of Chemistry and the Work they have done. Closing Address, Session 1891-92, May 6th. By Hugh H. Browning, M.A., B.D. 1894. pp. 46.

LEWIS, H. K., 136, Gower-street, London, W.C.

A Text-Book on Diseases of the Eye. By Henry D. Noyes, A.M., M.D. Illustrated. Second Edition. 1894. pp. 812.

LIPPINCOTT, J. B., COMPANY, Philadelphia.

International Clinics: a Quarterly of Clinical Lectures by Professors and Lecturers in the leading Medical Colleges of the United States, France, Great Britain, and Canada. Vol. II. Fourth Series. 1894. Illustrated. pp. 358.

LONGMANS, GREEN, & Co., London.

Hygiene. By J. L. Notter, M.A., M.D. Dubl., and R. H. Firth, F.R.C.S. 1894. pp. 374. Price 3s. 6d.

PUTNAM'S, G. P., SONS, Bedford-street, London, W.C.

Practical Lectures in Dermatology. By Condict W. Cutler, M.S., M.D. 1894. pp. 233.

SAMPSON LOW, MARSTON, & Co., Fetter-lane, Fleet-street, London.

Carlsbad and its Environs. By John Merrylees. With a Medical Treatise on the Use of the Waters. By B. London, M.D. Second Edition. Illustrated. 1894. pp. 147.

THE "AFRICAN REVIEW" OFFICES, Basinghall-street, London, and SIMPKIN, MARSHALL, & Co., London.

The Downfall of Lobengula: the Cause, History, and Effect of the Matabele War. By W. A. Wills and L. T. Collingridge, and Others. 1894. pp. 335. Price 6s.

WRIGHT, JOHN, & Co., Bristol; SIMPKIN, MARSHALL, HAMILTON, & Co., London; and HIRSCHFELD BROTHERS, London.

Myxœdema, Cretinism, and the Goitres, with some of their Relations. By Edward F. Blake, M.D., M.R.C.S. 1894. pp. 89. Price 3s. 6d.

A Tourist's Visit to Argyleshire and West Highlands (Sir Jos. Causton & Sons, London).—A Post-graduate Lecture on further Researches on the Causation of Anæmia and the Blood Changes produced by Uric Acid; by A. Haig, M.A., M.D. Oxon, F.R.C.P. Lond.; reprint (J. Bale & Sons, London, 1894).—The Royal Natural History; Part 10 (Fred. Warne & Co., Bedford-street, London, 1894); price 1s. net.—Memoria de la Comision Directiva del Servicio del Cólera: por el Dr. W. Diaz; 1887-88 (Calle de la Moneda, Santiago de Chile, 1888).—Annals of Ophthalmology and Otology; July, 1894 (Dr. J. P. Parker, Saint Louis, Missouri, 1894).—Transactions of the Obstetrical Society of London; vol. xxxvi., for the year 1894; Part 2: for March, April, and May (Adlard & Son, Bartholomew-close, London); price 8s.—The Monist, July; a quarterly magazine (Watts & Co., Johnson's-court, Fleet-street, London).—Notes on the Climatology of California; by E. A. Hague (George Falkner & Sons, Manchester).—The Johns Hopkins Hospital Reports: Report in Neurology, II.; vol. iv., Nos. 4, 5 (The Johns Hopkins Press, Baltimore, 1894).—Transactions of the Grant College Medical Society, Bombay, from January to December, 1893 (at the Duftur Ashkara Oil Engine Press, Bombay, 1894).—The Friend of China; the Organ of the Society for the Suppression of the Opium Trade; August, 1894 (P. S. King & Son, King-street, Westminster, S.W.).—Can Albuminuric Retinitis in Pregnancy be prevented? by R. L. Culbertson, M.D., Zanesville, Ohio (reprint from American Journal of Ophthalmology, July, 1894).—Albuminuric Neuro-Retinitis in Pregnancy and its Treatment; by L. R. Culbertson, M.D. (reprint from American Journal of Ophthalmology, May, 1894).—Sonderabdruck aus den Jahrbüchern der Hamburger Staatskrankenanstalten; Band. III., Jahrgang 1891-92; Ueber Katatonie: von Dr. A. Staelin, früherem Assistenzarzt (Leopold Voss, Hamburg und Leipzig, 1894).—Ueber die natürliche Immunität gegen Cholera; Verhütung dieser sowie ähnlicher Krankheiten durch einfache physiologische Mittel; von C. G. Gümpel (J. F. Lehmann, München, 1894).—The Treatment of Myxœdema by feeding with the Thyroid Gland; by Henry Hun, M.D. (reprinted from the Albany Medical Annals, January, 1894).—Differential Diagnosis of Alcoholic Coma from other Forms of Coma, with especial reference to the Care of Persons found by the Police on the Streets in a Comatose or Semi-comatose Condition; by Lewis D. Mason, M.D., New York (from the Quarterly Journal of Inebriety, July, 1894).—A New Food for Use in Typhoid and other Fevers; by J. W. Springthorpe, M.A., M.D. Melb., M.R.C.P. Lond.; reprint (Stillwell & Co., Melbourne).—Central London School District: Report on Ophthalmia, 1893-94 (Ashfield & Young, Battersea, London).—The Natural History of Plants; by Kerner and Oliver; Part 5 (Blackie & Son, London and Glasgow); price 2s. 6d. net.—Two Cases of Unclassified Infection; by W. F. Arnold, M.D. (reprint from the Occidental Medical Times, August, 1894, Sacramento, California).—Some Observations on Gonorrhœa in the Male; by W. F. Arnold, M.D. (reprint from the Southern Practitioner, June, 1894, Sacramento, California).—Deaf-Mutism: a Brief Account of the Deaf and Dumb Human Race, from the Earliest Ages to the Present Time; by Henry W. Hubbard; reprint (published at Stainer House, Paddington-green, London, W.); price 6d.—Sonderabdruck aus dem Aerztlichen Praktiker; Dr. med. Seidel, Berlin (Gebrüder Lüdeking, Hamburg).—Phaneroskopie und Glasdruck für die Diagnose des Lupus vulgaris; von Oscar Liebreich (A. Hirschwald, Berlin, 1894).—Ueber traumatische Tabes und die Pathogenese der Tabes im Allgemeinen; von Dr. Eduard Hitzig (A. Hirschwald, Berlin, 1894).—Handels-Bericht; von Gehe & Co. in Dresden, Neustadt, September, 1894 (C. C. Meinhold & Söhne, Dresden).—Treatment of Inoperable Malignant Tumours with the Toxines of Erysipelas and the Bacillus Prodigiosus; by W. B. Coley, M.D. (reprint from the American Journal of the Medical Sciences, July, 1894).—The Insurance File, containing Reproductions in Reduced Facsimile of the Annual Reports and Balance-sheets of the Principal Insurance Offices of the United Kingdom (W. J. West, Godliman-street, London, E.C., 1894).—Wann dürfen Gonorrhöische heirathen? von Dr. E. Saalfeld (H. Kornfeld, Berlin, N.W., 1894).—Bibliographie der Klinischen Helminthologie; Hefte 7 und 8; von Dr. J. Ch. Huber (J. F. Lehmann, München, 1894).—Ueber Bilharziakrankheit; von Dr. L. Rütimeyer (Carl Sallmann, Basel und Leipzig, 1894).—Untersuchungen über Infection und Immunität bei der Asiatischen Cholera; von Dr. G. Klemperer; hierzu 2 Tafeln (A. Hirschwald, Berlin, 1894).—Leukæmia in Infants; by J. L. Morse, M.D. (reprint from the Boston Medical and Surgical Journal, August, 1894).—Magazines for September: Science Progress, The Phrenological, The English Illustrated Magazine, The Humanitarian, Sunday at Home, Leisure Hour, Boy's Own Paper, Boy's Out-door Games and Recreations, Girl's Own Paper, Girl's Own Out-door Book (Religious Tract Society).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALLARD, JOS. H., L.R.C.P., L.M. Edin., L.F.P.S. Glasg., M.R.C.S. Eng., has been appointed Medical Officer of Health for the Tewkesbury Urban Sanitary District, vice W. Allard.

APPLEYARD, F. E., B.A. Cantab., L.R.C.P., M.R.C.S., has been re-appointed Clinical Assistant in the Special Department for Diseases of the Throat at St. Thomas's Hospital.

ARKLE, GEO. M., L.S.A., has been appointed Assistant Medical Officer to the Walton Workhouse of the West Derby Union.

ARNOLD, E. G. E., L.R.C.P., M.R.C.S., has been appointed Junior Obstetric House Physician to St. Thomas's Hospital.

ARNOLD, G. J., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

BARCLAY, JOHN, M.B., C.M. Edin., has been appointed Medical Officer for the Wetheral Sanitary District of the Carlisle Union.

BEATTIE, R. M., M.B., M.S., B.Sc. (Public Health) Edin., has been appointed Assistant Medical Officer to the Auckland Lunatic Asylum, New Zealand.

BIRD, RICHARD K., L.R.C.P., L.M., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Public Vaccinator for Noradjuha, Victoria, Australia.

BROWN, WILLIAM, M.D., Ch.M. Glasg., has been reappointed Medical Officer of Health for the Stapleton Urban Sanitary District.

BUCK, ARTHUR H., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Senior House Surgeon to the Sussex County Hospital, Brighton, vice Maynard, resigned.

BURKITT, W. A. H., M.B., Ch.B., B.A.O. Dub., has been appointed Medical Officer to the local railway, Goulburn, Southern Line, New South Wales.

COLCUTT, A.M., B.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been reappointed Resident House Physician to St. Thomas's Hospital.

COLLUM, ARCHIE TILLYER, M.B. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to Charing-cross Hospital, vice Benjamin Wainewright, M.B., C.M. Edin., F.R.C.S. Eng., resigned.

CUFF, A. W., B.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

DAVIES, ARTHUR T., M.D. Cantab., F.R.C.P. Lond., has been appointed a Physician to the Metropolitan Hospital, Kingsland-road, N.E., vice Drysdale, resigned.

DICK, JAS. A., M.D., M.S. Edin., has been appointed Consulting Physician to the Randwick Asylum for Destitute Children, New South Wales.

DICKSON, H. A., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

DONOVAN, PHILIP H., M.B., B.S. Irel., has been appointed Health Officer and Public Vaccinator for the Borough of Tarnagulla, Victoria, Australia.

FENWICK, P. C., L.R.C.P., M.R.C.S., has been appointed Senior Obstetric House Physician to St. Thomas's Hospital.

FITZGERALD, C. G., L.K.Q.C.P., L.M., L.R.C.S. Irel., has been appointed Health Officer, *pro tem.*, for the Seymour Shire, Seymour Riding, Victoria, Australia.

FITZPATRICK, L., L.R.C.P., L.M., L.R.C.S. Edin., has been appointed Medical Officer to the local railway, Dubbo, Western Line, New South Wales.

GARMAN, EDWIN C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Hailsham Union.

GOODE, GEO., M.D., L.M. Dub., has been appointed Medical Officer to the local railway, Orange, Western Line, New South Wales.

GRIFFITHS, GEO. BATHO, L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer to the Eastern Dispensary, Bath, vice Collins, resigned.

GRÜNBAUM, A. S. F., B.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been appointed Non-resident House Physician to St. Thomas's Hospital.

HAMILTON, A. A., M.B., Ch.B., L.M. Dub., has been appointed Honorary Medical Officer to the Adelaide Hospital, South Australia.

HARRIS, JOHN, M.D., Ch.M. Aberd., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer to the local railway, Newcastle, Northern Line, New South Wales.

HAYDEN, JAS. A., M.R.C.S., L.M. Eng., has been appointed Health Officer for South Gippsland Shire, Victoria, Australia.

HAYNES, E. J. A., L.R.C.P. Lond., M.R.C.S., has been appointed Captain Commanding the Perth, Western Australia, Mounted Rifles.

HOLTOM, CHAS. J., M.R.C.S., has been appointed Surgeon to the Avonmouth Branch of the St. John Ambulance Association, vice Duncan, resigned.

HUGHES, H. O., L.R.C.P., L.R.C.S., L.M. Edin., has been appointed Medical Officer for the Abergele Sanitary District of the St. Asaph Union.

JOSEPH, JAMES J., L.R.C.S. Irel., L.K.Q.C.P., L.M., R.D., has been appointed Medical Officer and Public Vaccinator for No. 2 District, St. Mary's Parish, Battersea, Wandsworth, and Clapham Union.

KENWOOD, HARRY R., M.B., M.S. Edin., L.R.C.P. Lond., D.P.H., has been appointed Medical Officer of Health for the Stoke Newington Sanitary District.

KING, A. F. W., L.R.C.P., M.R.C.S., has been reappointed Clinical Assistant in the Special Department for Diseases of the Throat at St. Thomas's Hospital.

KIRKLAND, A., M.B., Ch.M. Glasg., has been appointed Medical Officer to the local railway, Bathurst, Western Line, New South Wales.

KIRKPATRICK, H., M.B., B.Ch., B.A.O., has been appointed Resident Surgeon to the St. Mark's Ophthalmic Hospital, Dublin.

LAVER, J. W., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital.

MACCARTHY, CHAS. D., L.K.Q.C.P., L.M. Irel., L.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Burrowa, New South Wales.

MACKENZIE, F. W., M.B., Ch.M. Edin., has been appointed Honorary Surgeon to the Wellington City Rifle Volunteers, New Zealand.

MARSH, J. H., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon to the Macclesfield General Infirmary.

MERRY, W. J. C., M.B., B.Ch. Oxon., has been appointed House Surgeon to St. Thomas's Hospital.

MISKIN, L. J., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

MORRIS, WILHELM, M.D. Erlangen, has been appointed an additional Public Vaccinator for the District of Timaru, New Zealand.

MURRAY, W., M.B., C.M., has been appointed Junior House Surgeon to the Deaconesses' Institution and Hospital, Tottenham, London.

NEWMAN, F. JAS., M.B., Ch.B. Melb., has been appointed, *pro tem.*, Health Officer for the Barrabool Shire, Victoria, Australia.

NICHOLSON, T. G., B.Sc. Lond., L.R.C.P., M.R.C.S., has been appointed Non-resident House Physician to St. Thomas's Hospital.

NIX, R. E., B.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been reappointed Resident House Physician to St. Thomas's Hospital.

O'NEILL, HENRY, M.D., M.Ch., L.A.H. Dub., has been reappointed Surgeon to the Belfast Royal Hospital.

OWEN, S. H., M.D. Irel., M.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Sanitary District of Moss Side, Lancs.

PLATT, JOHN E., F.R.C.S. Eng., B.S., M.D. Lond., has been appointed Resident Surgical Officer to the Manchester Royal Infirmary.

POSNETT, W. G. T., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer to the South City Dispensary, Dublin.

RAPHAEL, JOSEPH J., L.F.P.S. Glasg., &c., has been appointed Honorary Medical Officer to the South Brisbane Branch Dispensary, Queensland, vice E. M. Owens, M.R.C.S. Eng., resigned.

REID, JAS. H., M.B., Ch.B. Univ. N.Z., has been appointed a Public Vaccinator for the District of Waimangaroa, New Zealand.

RICHARDSON, S. W. F., B.Sc. Lond., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Ear at St. Thomas's Hospital.

RUSSELL, A. E., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital.

RUSSELL, WILLIAM, M.B., C.M. (Aberd.), late Senior Resident Medical Officer, Toxteth Infirmary, Liverpool, has been appointed Resident Medical Officer to the Netherfield-road Fever Hospital, Liverpool.

SANDFORD, G. C., M.B., C.M. Edin., has been appointed Assistant Medical Officer to the City Hospital, Birmingham.

SAYRES, A. W. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Wincanton Sanitary District of the Wincanton Union.

SCOTT, C. H., M.B., Ch.B. Melb., has been appointed Medical Officer to the local railway, Penrith, Western Line, New South Wales.

SEABROOK, LEONARD L., M.B., Ch.B. Adel., has been appointed a Public Vaccinator for the Terowie District, South Australia.

SEGOL, LOUIS, M.D. Montpellier, has been appointed Medical Officer to the local railway, Narrabi, New South Wales.

STEVENSON, J., M.B., B.Ch., B.A.O. Irel., has been appointed Assistant Medical Officer to the Infirmary of the Parish of St. Leonard, Shoreditch.

STRITCH, G. A., L.F.P.S., L.M. Glasg., has been appointed Medical Officer to the South City Dispensary, Dublin.

SYMONS, R. FOX, L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

TAYLER, WM. G., M.R.C.S. Eng., has been appointed Medical Officer to the New South Wales Medical Institute, Sydney.

THANE, E. H., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer to the local railway, Wagga, Southern Line, New South Wales.

TOWLE, W. B., M.D., Ch.M., L.C.P.S. Montreal, has been appointed Medical Officer to the Nymagee Hospital, New South Wales.

TURNER, E. O., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Sixth Sanitary District of the Wycombe Union.

WEBB, FREDK. J., M.B., Ch.B. Vict. (Owens College), has been appointed Medical Officer for the Gorton Sanitary District of the Chorlton Union, vice Hackett, resigned.

WELD, JAS. C., L.K.Q.C.P., L.M., L.R.C.S. Irel., has been appointed a Public Vaccinator for Hopetoun, Victoria, Australia.

WHITLA, W., M.D. Irel., L.R.C.P., L.M., L.R.C.S. Edin., L.A.H. Dub., has been reappointed Physician to the Belfast Royal Hospital.

WIGAN, GEO., M.R.C.S. Eng., has been appointed Medical Officer to the local railway, Armidale, New South Wales.

WRIDE, F. G., L.K.Q.C.P. Irel., M.R.C.S. Eng., has been appointed, *pro tem.*, Health Officer for the Port of Warrnambool, Victoria, Australia.

WRIGHT, THOS. N., L.R.C.S., L.R.C.P., L.M. Irel., has been appointed a Government Medical Officer and Vaccinator for the District of Cassilis, New South Wales.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Two Resident Clinical Assistants. Applications to the Clerk, Bridewell Hospital, New Bridge-street, E.C.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—House Physician, for six months. Board and residence and allowance for washing provided.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary to commence at £100 per annum, increasing by £10 annually to £120 a year, with board, lodging, washing, and attendance.

GREAT YARMOUTH HOSPITAL.—House Surgeon, for one year. Salary £90 per annum, with board and lodging (but no wines, spirits, beer, &c. are found).

NORTH WALES ASYLUM, Denbigh.—Second Assistant Medical Officer. Salary £100, with board, washing, and apartments.

ROYAL UNITED HOSPITAL, Bath.—House Surgeon, for one year. Salary £50, with board, lodging, and washing.

SUSSEX COUNTY HOSPITAL, Brighton.—House Physician, unmarried. Board and residence in the hospital, with washing, and a salary of £60, rising to £80 per annum, at the discretion of the Committee of Management.

THE COPPICE ASYLUM, Nottingham.—Assistant Medical Officer for private patients, unmarried. Salary £120 per annum, with apartments, board, attendance, and washing.

THE DENTAL HOSPITAL OF LONDON, Leicester-square, W.C.—Assistant Dental Surgeon.

WALSINGHAM UNION.—Medical Officer for the Raynham District. Salary as medical officer £38 per annum, exclusive of extra medical and vaccination fees. Applications to the Clerk, Bridge-street, Fakenham.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—On Aug. 31st, at Norwich, the wife of Surgeon-Lieutenant-Colonel J. A. Anderson, of a daughter.

BICKERTON.—On Aug. 28th, at Hoylake, the wife of T. H. Bickerton, L.R.C.P. Edin., M.R.C.S., Liverpool, of a son.

EVANS.—On Aug. 30th, at Shaftesbury, the wife of C. S. Evans, M.B., of a daughter.

FENN.—On Sept. 2nd, at Grey Friars, Colchester, the wife of Edward Liveing Fenn, M.D., M.R.C.P., of a son.

HILL.—On Sept. 2nd, at Middlesex County Asylum, Upper Tooting, the wife of H. Gardiner Hill, Medical Superintendent, of a son.

LUND.—On Aug. 29th, at Sandywood, Pendleton, Manchester, the wife of Herbert Lund, F.R.C.S., of a daughter.

VOIGT.—On Aug. 31st, at 10, Manchester-road, Southport, the wife of Z. C. Voigt, M.D., of a son.

WESTLAKE.—On Aug. 31st, at Archer-villas, Bayswater, the wife of James Galbraith Westlake, Surgeon, of a daughter.

MARRIAGES.

BARCLAY-SMITH—ROGERS.—On Aug. 28th, at St. Matthias Church, Plymouth, Edward Barclay-Smith, M.A., M.D., of Downing College, Cambridge, to Ida Mary, eldest daughter of G. Porter Rogers, Esq., J.P., of Ford Park, Plymouth.

CLAYTON—CHARLES.—On Aug. 30th, at Edgbaston Parish Church, John Hazelwood Clayton, M.B., M.R.C.S., of Frederick-road, Edgbaston, to Lilla Jane, second daughter of Andrew Charles, Esq., Brackenfield, Edgbaston.

KENNEDY—SCOTT.—On Aug. 30th, in the parish church of Lavenham, Suffolk, Angus Endicott Kennedy, M.R.C.S., L.R.C.P., and L.S.A., eldest son of Dr. Alfred E. Kennedy, of Chesterton House, Plaistow, to Margaret, youngest daughter of the Rev. Canon Scott, Rector of Lavenham.

ROBERTSON—RANDLES.—On Aug. 29th, at Brixton, John Robertson, M.A., M.D., eldest son of William Borwick Robertson, M.D., of West Dulwich, to Annie, eldest daughter of the late Edward Randles, Esq., of Durban, Natal. Natal papers please copy.

WOAKES—ALLINGHAM.—On Sept. 1st, at the Parish Church, Marylebone, by the Rev. W. E. Cotes, M.A., Vicar of St. John the Baptist, Great Marlborough-street, Claud Edward, youngest son of Dr. Woakes of Harley-street, W., to Ethel Maud (Doddie), youngest daughter of William Allingham, F.R.C.S., of Grosvenor-street, W.

DEATHS.

ARNOLD.—On Aug. 22nd, at Nagasaki, Japan, Charles Arthur Arnold, M.B., C.M. Aberdeen.

COUNSELLOR.—On May 19th, 1894, at Hawthorne, Nevada, U.S.A., Charles Eyre Counsellor, L.S.A. London University, M.D. Cal., late of Hull, England, of dropsy and heart failure, aged 37.

MANLY.—On Aug. 27th, at St. Lawrence-villas, Canterbury, Earcroft Carroll Manly, Esq., M.D., second son of Thomas Manly, Aberdeen House, Clyde-road, Dublin, in his 38th year.

MITCHELL.—On Aug. 26th, at his residence, Lanowlee, Derry, Brigade-Surgeon Hamilton Mitchell, late 96th Regiment.

MORT.—On Sept. 3rd, at his residence, Lord-street, Southport, William Mort, M.D. Edin., M.R.C.P. Lond., in his 77th year.

SKAIFE.—On Aug. 29th, suddenly, at his residence, Prince's-terrace, Brighton, Henry Skaife, M.R.C.S. Lond., &c., in his 60th year.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 6th, 1894.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
Aug. 31	30·12	S.E.	57	56	104	76	54	...	Foggy
Sept. 1	30·12	N.E.	60	57	104	76	57	...	Cloudy
,, 2	30·10	N.E.	60	57	101	69	54	...	Fine
,, 3	29·90	N.E.	55	54	73	56	54	...	Raining
,, 4	30·05	N.E.	54	50	102	64	48	·04	Fine
,, 5	30·07	N.W.	51	48	108	64	45	·03	Hazy
,, 6	30·07	N.W.	51	49	99	60	47	...	Cloudy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

IN order to facilitate the work of reference to the volumes of THE LANCET, duplicate copies of the Index to each half-yearly volume are published in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Manager of THE LANCET.

MEDICAL ETIQUETTE.

L.R.C.P. & S.Edin., &c. writes:—

"A. has a case of supposed scarlet fever now under observation, and, of course, not reported to the medical officer of health. B., who is medical officer of health for the district and in private practice as well, has been informed by the School Board officer of a supposed case of scarlet fever where A. is attending. B., without A.'s knowledge, visits the case, examines it, and diagnoses the same as not scarlet fever. A. wishes to know if B. was justified as medical officer of health in visiting this case and offering an opinion as he did."

Our correspondent's attention is directed to a leading article in our present issue.

Question of Ethics.—D. was acting as the *locum tenens* of B. The question of distance does not arise. The operation was, we assume, somewhat outside the ordinary duties of a *locum tenens*. The fee should be divided equally.

X. Y. Z.—**The course pursued by the coroner was unsatisfactory, but it was within his discretion to take it.**

THE TRUE NATURE OF "FALSETTO."

To the Editors of THE LANCET.

SIRS,—About three years ago you inserted a letter from me on the subject of the so-called "falsetto" voice and its unknown possibilities of development. Since then I have continued my observations and experiments in the same direction, and the conclusions to which they point appear to me to be of such great importance that I trust you will again permit me to refer to the matter in your columns.

The voice commonly called "falsetto" is, and ever has been, a puzzle to the scientific as well as to the musical world, and I am convinced that to this fact alone is due the mystery which still surrounds the whole question of voice production. When the true nature of this kind of voice has been fully proved—then, and not till then, will the mystery be unravelled. In dealing with the adult male voice, three terms are in common use among voice trainers—viz., "chest voice," "head voice," and "falsetto." By "falsetto" is generally understood that kind of voice in which a man can counterfeit the voice of a woman. Those who employ the term "head voice" maintain that this kind of voice is not produced like "chest voice," and that it is not the same as "falsetto," but is something essentially different from either. By "chest voice" is usually meant that voice which a man commonly uses for the greater part of his compass, but which he cannot carry to the extreme upper limit of his voice. Now, my experiments have proved to me: firstly, that the weakest and thinnest "falsetto" can be carried downwards and developed until it sounds like, and is declared by those who hear it to be, "head voice"; and, secondly, that this "head voice" can be carried further downwards to the bottom of the compass, and further developed until it sounds like, and is declared by those who hear it to be, "chest voice." When this process of development is complete the voice consists of one register only, being produced in the same way from top to bottom. It is then in splendid condition, perfectly easy to use throughout its whole compass, and capable of being exercised without injury or fatigue for almost any length of time. This is never the case with the ordinary "chest voice," which cannot be carried upwards to any great extent without more or less painful effort, and can never be used freely and energetically for any long period without marked deterioration. The reason is that this "chest voice," which is employed exclusively, or almost exclusively, by ninety-nine out of every hundred trained male singers and by most public speakers, is wrongly produced. The rightly produced voice—though the fact is unknown and must at first appear strange and startling, if not incredible—is a voice *produced throughout by precisely the same mechanism as that employed in the production of the so-called "falsetto"*; and "falsetto" itself is the *remains* of the rightly-produced voice after years of wrong production. This is the important truth which I claim to have discovered, and which I ask permission to make known to scientists and the medical profession through the medium of your widely-read journal.

I am, Sirs, yours obediently,

E. DAVIDSON PALMER, Mus. Bac. Oxon.

Highwood-road, N., Sept. 3rd, 1894.

"TRIKRESOL."

To the Editors of THE LANCET.

SIRS,—Messrs. Zimmermann's reply to our letter on this subject necessitates a few additional remarks, and we trust you will allow us to trespass again on your space. The various impurities mentioned by Messrs. Zimmermann as having been separated in the preparation of "trikresol" have been likewise separated in the process of refining our No. 5 carbolic acid and are therefore characteristic only of the crude or partially refined liquid mixtures of the tar acids, and in a still more exaggerated form in certain mis-named preparations offered to the public as "non-poisonous" disinfectants, in substitution for the genuine tar acids. We admit that "trikresol" possesses a lower boiling point, higher specific gravity, and greater solubility in water than our No. 5 carbolic acid, but as these properties point to, and really demonstrate, the fact that crystallisable carbolic acid is present in larger, and consequently the kresols in lesser, proportion in "trikresol" than in our No. 5 carbolic acid, what becomes of the claim for "trikresol" that it possesses a lesser degree of toxic and a greater one of disinfectant power, seeing that, according to the theories promulgated, the most poisonous member (crystallisable carbolic acid) of the mixture of tar acids constituting "trikresol" is present in that preparation in greater quantity, and the more powerful disinfectants (kresols) in lesser quantity, than in our No. 5 carbolic acid? We freely admit that "trikresol"—as a mixture of tar acids—is well refined and highly effective for disinfecting purposes, but we think it desirable, in the interest of public safety, that it should be recognised that it is not less toxic than any other of the mixtures of tar acids used so extensively as disinfectants. Finally, we cannot agree with the recommendation to use either "trikresol" or any other mixture of tar acids as substitutes for pure crystal carbolic acid for medicinal or surgical purposes, seeing that the kresols, being much less soluble in water than pure carbolic acid, are consequently the more liable to separate in a concentrated condition from their aqueous solution by the evaporation of the solvent and will necessarily cause serious results to the patient.

We are, Sirs, yours faithfully,

Manchester, Aug. 29th, 1894. F. C. CALVERT & Co.

"TREATMENT OF DIPHTHERIA BY INSUFFLATIONS AND TABLOIDS OF SULPHITE OF MAGNESIUM."

To the Editors of THE LANCET.

SIRS,—In answer to Dr. Brownlow Martin's request for information as to the results of the treatment recommended by him for diphtheria, I am happy to be able to record some good results. The first case was that of a girl aged three years. I found both tonsils and the uvula covered with membrane. I gave an insufflation of sulphite of magnesium every two hours. The membrane gradually disappeared, and the case appeared to be progressing favourably; but, unfortunately, on the twelfth day she was attacked with such severe spasm of the glottis that I had to perform tracheotomy to prevent death from suffocation. She died five hours after the operation from cardiac failure. The next case was that of a boy three years of age, who developed diphtheria whilst suffering from whooping-cough. I ordered the same treatment, with the result that in three days there was no sign of membrane. In spite of added bronchitis, he made a perfect recovery, with the exception of slight paralysis, which is now disappearing. Since then I have only had three true cases, all of which have recovered perfectly; but I use the insufflations in every doubtful case and probably may have prevented the development of the membrane. With the treatment I always order a generous diet, combined with port wine or brandy, and give liquor ferri perchloridi and potassæ chloras internally. I have great faith in the treatment and shall be happy to let Dr. Martin know the result in any future cases.

I am, Sirs, yours faithfully,

137, High-road, Lee. HERBERT BRABANT, M.R.C.S., L.R.C.P.

Mr. H. R. Greene.—The Public Prosecutor is the proper person to deal with such literature. We do not see any name in the Medical Register corresponding to that given as the author of the "Book of Nature." Otherwise, it would have been a matter to bring under the notice of the General Medical Council.

Hemera.—It is a pity that our correspondent took A. into partnership; but the fact that he did so should make it more easy to come to a reasonable arrangement with him to retire, which is obviously the right course. Paying a pension for life is an objectionable arrangement.

The New Eye Infirmary, Greenock.—The paragraph is in bad taste.

BARBED HOOKS IN FOREIGN MEAT.

To the Editors of THE LANCET.

SIRS,—Some weeks ago there was a correspondence in some of the papers respecting the danger to consumers caused by the use of barbed hooks in packing foreign mutton. I enclose a specimen extracted from a leg of so-called English mutton, in which it was completely buried, so as not to be visible till the meat was cut. It has been useful in proving a fraud by the vendor. The mutton was small, dark, and did not have the wet appearance often seen on frozen meat, but when cooked was of inferior taste, somewhat hard, and was admitted at last not to be English. I am, Sirs, your obedient servant,

East India United Service Club, St. James's-square, S.W., Aug. 20th, 1894. A. G. WYNEN (Colonel).

*** Our correspondent encloses in his letter a double hook of this

size and shape, with barbed ends.—ED. L.

Dr. C. S. Kirton.—1. We think the General Medical Council will take no such steps.—2. We do not consider it unprofessional at all to do as this question suggests.—3. We do not think there is a probability of any immediate change in the law as regards the registrability of the M.D. of Brussels.

J. S.—We never recommend individual practitioners.

THE CLIMATE OF BARCELONA.

To the Editors of THE LANCET.

SIRS,—Would any of your numerous readers inform me of the climatic conditions of Barcelona, Spain? I have a patient suffering from incipient phthisis, who is anxious to escape the severity of our English winter, and from the nature of his employment he could easily winter at Barcelona. I am, Sirs, yours faithfully,

Aug. 30th, 1894. J. M.

ERRATUM.—In our notice of Milne's Antiseptic Dressings (THE LANCET, Aug. 25th, 1894, page 443), for "corrosive sublimate gauze" read *Lister's double cyanide of zinc and mercury gauze*, the pink colour of which is due to rose aniline.

THE "WORLD" ON THE CHELSEA HOSPITAL FOR WOMEN.

THE Chelsea Hospital for Women is not without its admirers. The following is from the *World* of Aug. 29th, 1894:—

> "There is no hospital that does more good for the poor and suffering of the weaker sex than the Chelsea Hospital for Women. It is a most deserving institution, and the public should give it increased support. A new appointment has just been made to its medical staff—that of Mr. Robert O'Callaghan, late of the Carlow County Infirmary."

Doubtless this gentleman will say, "Save me from my friends."

Fairplay and no Favour.—Strictly speaking, the M.B. is not entitled to the title mentioned. To give it to him is an act of courtesy; he is a graduate of a university, whilst the other is not.

S. A. B.—We have no knowledge either of the practitioner, his methods, or his agent; but we are obliged to our correspondent for bringing the matter to our notice, and have made inquiries.

Secretary.—The question is so eminently legal that we must ask to be excused answering it.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), Gt. Northern Central (2.30 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Chelsea (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received:—*Ayr Observer, Dundee Advertiser, Alfreton Journal, Newcastle Chronicle, Surrey Mirror, Glasgow Herald, Cardiff Times, South Wales Daily News, Belfast News Letter, Leicester Post, Scotsman, Western Morning News, Inverness Courier, Ayrshire Post, Munster Express, Evening Telegraph (Dundee), Reading Mercury, Northern Whig, Yorkshire Post, Sanitary Record, Bradford Daily Argus, Leeds Mercury, West Middlesex Standard, Gazette and News (Blackpool), Surrey Advertiser, Liverpool Daily Post, Bristol Mercury, Local Government Chronicle, City Press, Liverpool Courier, Weekly Free Press and Aberdeen Herald, Hertfordshire Mercury, Architect, Local Government Journal, Daily Chronicle, Court Journal, Building News, West Middlesex Advertiser, Times of India, Pioneer Mail, The Australasian Medical Gazette, Builder, Advertiser (Brierley Hill), The Morning, Sevenoaks Chronicle, Sunday Times, Whitehall Review, Kilburn Post, The Australian Medical Journal, Manchester Guardian, European Mail, Marylebone Mercury, Galignani Messenger, Arbroath Herald, Kelso Mail, Le Temps (Paris), Malton Gazette, North Devon Herald, Science Siftings, Montgomeryshire Express, St. James's Gazette, Rangoon Gazette, Bezhill Chronicle, Cumnock Express, Star (Guernsey), East Anglian Daily Times, Cheltenham Free Press, Hunts County News, Wolverhampton Chronicle, Glamorgan Free Press, New York Herald, Woodford Times, Fife Free Press, Yorkshire Post, Derby Express, Blackburn Daily Telegraph, Dover Express, Family Doctor, Ladies' Review, Ripley Advertiser, Stafford Post, Trowbridge Chronicle, African Review, Lytham Times, Leek Post, Morning Post, Malta Chronicle, Evening Telegraph (Dundee), Journal of Universal Information, British and Colonial Printer and Stationer, Courrier de la Presse, Nenagh Guardian, Bradford Daily Argus, Brighton Guardian, Bath Gazette, Blackburn Times, Senate, Grantham Journal, South London Press, Brighton Herald, Personal Rights, Natural Food, Herald (Melbourne), Cornish Times, Public Health, Western Times, Grimsby News, Mid-Surrey Gazette, Tottenham Times, School Board Chronicle, &c. &c.*

Communications, Letters &c. have been received from—

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